CLINICAL MEDICINE AND SURGERY

VOLUME 44 November, 1937 NUMBER 11

• LEADING ARTICLES •

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JAMES HOWARD MEANS, A.B., M.D., F.A.C.P.

CLINICAL MEDICINE AND SURGERY

GEORGE B. LAKE, M.D.
• *Editor* •

VOLUME 44 NOVEMBER, 1937 NUMBER 11

EDITORIAL

Dr. James H. Means

President, American College of Physicians

DR. James Howard Means, of Boston, Mass., who was inducted as president of the American College of Physicians at its meeting in St. Louis last April, was born at Dorchester, Mass., June 24, 1885, and received his preparatory education at Noble and Greenough's School in Boston, and in 1902 and '03 was a special student in biology and chemistry at the Massachusetts Institute of Technology, after which he matriculated at Harvard University, receiving his degree as a Bachelor of Arts in 1907 and his Doctorate in Medicine in 1911.

Following his graduation, he served a two-year internship in the Massachusetts General Hospital, and immediately thereafter was made H. P. Walcott Fellow at his *alma mater*, in which capacity he served for three years.

His career as a medical educator began in 1916, with his appointment as teaching fellow in medicine at Harvard Medical School, and his progress in the pedagogic ranks of that institution has been steady—instructor, 1919 to 1921; assistant professor, 1921 to 1924; Jackson professor of clinical medicine, from 1924 up to this time. Coincident with his elevation to a full professorship he was made chief of the medical services at the Massachusetts General Hospital, which position he still holds.

In 1928 he became a fellow of the American College of Physicians; in 1935 was elected as one of its regents; and now holds the highest honor in the gift of the College, unless the designation as one of its Masters might be considered a greater one.

From June, 1917, to March, 1919, Dr. Means was in active service in the Medical Corps of the Army, attached to Base Hospital No. 6, with the grade of major.

Dr. Means is the author of several textbooks: "Dyspnea" (1924); "Diagnosis and Treatment of Diseases of the Thyroid" (with Dr. E. P. Richardson—1929); "The Thyroid and Its Diseases" (1937); and also the chapter on Diseases of the Endocrine Glands in "Musser's Internal Medicine." In addition to this he has contributed about 100 articles, dealing chiefly with endocrinology, especially the thyroid, to the periodical literature.

Among the numerous professional and scientific societies of which Dr. Means is a member, may be mentioned: the A.M.A.; the American Association for the Advancement of Science; the American Society for Clinical Investigation; and the Association of American Physicians.

With an active, forceful, and scholarly man like Dr. Means at its head, the year should be a busy and fruitful one for the College.

The Family History

THE importance of a full and accurate anamnesis in studying any patient is too frequently overlooked by many busy physicians in handling their cases. A perfunctory question or two as to whether parents or near relatives have ever had tuberculosis, cancer, "heart disease," or any other chronic malady is often the extent of this part of the examination, and the information so obtained is almost always valueless.

There are, however, many important and suggestive points which can be brought out by a carefully taken family history. The degree of consanguinity of the parents, if any, may throw light on some abnormality in the patient, as may, also, the age of the parents at the time of the patient's birth. The diseases, though they appear insignificant, to which the patients' parents and near relatives have been particularly and frequently subject may give helpful suggestions.

The physical and mental peculiarities appearing with any degree of regularity in the family stock may lead the careful physician to a diagnosis of some endocrine imbalance or abnormality.

A history of "one child sterility" or of repeated abortions may suggest the possibility of hereditary syphilis, which, otherwise, might be overlooked.

These are merely a few casual suggestions as to useful diagnostic points which may be brought out by a complete family history. Any physician who reads this can, if he will sit down and consider the subject carefully, recall to mind several cases in which his diagnosis would have been facilitated if he had gone into this matter thoroughly.

Will not every reader of this article devote a few minutes, *now*, to this form of introspection and let us have the result in the form of a detailed report of some case in which the family history would have given him a needed pointer?

In this way, the isolated experiences of each one can be made available to all.

If the head and the body are to be well, you must begin by curing the soul.—PLATO.

Prophylaxis of Poliomyelitis

ANTERIOR poliomyelitis, or infantile paralysis, is such a disastrous disease that when it is present in a community, it wakes terror in the hearts of all mothers of young children, and, hitherto, has caused physicians to experience a distressing sense of helplessness and almost of futility.

During the past decade, much has been done in clarifying the nature of the disease and in outlining methods of treatment which will save lives and obviate or modify the paralysis which follows the acute onset. Clinicians who are thoroughly familiar with these newer developments (as *all should be*) can now approach the management of these cases with a reasonable feeling of professional adequacy; but a reliable *prophylactic*, to be applied when the incidence of the disease approaches epidemic proportions, is urgently needed and is being eagerly sought.

Along this line, a number of experiments have been made upon animals, and to a less extent clinically, with various solutions to be sprayed into the nose, and the results, while not yet conclusive, are at least encouraging.

Among these solutions, that developed by Dr. Max M. Peet, of the University of Michigan, consisting of 1 percent zinc sulphate dissolved in a 0.5-percent solution of sodium chloride, with 1 percent Nupercaine added, seems to be giving clinical results on a considerable scale.

The first report to the Ontario Department of Health on the test of the Peet nasal spray as a preventative of infantile paralysis, administered free to nearly 1,000 children a few weeks ago, was made at the end of September by Dr. J. Edwin Hagmeier, director of the Hagmeier Clinic, at Preston Springs, Ontario, Canada.

Of a population of about 1,200 children, 993 were sprayed; the remaining approximately 200 were not sprayed. Of the 993 treated, only one child (1/10 of 1%) contracted the disease; of the remaining approximately 200, two (1%) contracted the disease. The one case in which the disease was contracted after spraying presented two important complicating factors: Subsequent examination disclosed a septal deflection to the right, which practically occluded the respiratory passage on that side, making it impossible to obtain proper contact of the medicine with the desired area. Since the disease developed ten days after spraying, and since the period of incubation is generally accepted as running from seven to eighteen days, it is also possible that the disease may have been contracted before the treatment was given.

An original method of treating small children was developed. The solution was ad-

ministered with a medicine dropper, the child being held upside down to permit the solution to reach the upper nasal passages by gravity.

Although this report offers no final and complete proof of the reliable effectiveness of the method, it is certainly highly suggestive and, since the solution used is simple to prepare and would appear to be harmless, it would seem to be a wise procedure on the part of physicians and health officials in communities where this disease is prevalent, to try this method on as large a scale as is practicable, and report their results as soon as they can be properly evaluated, for the benefit of the profession in general.

Do not attempt to do a thing unless you are sure of yourself; but do not relinquish it simply because someone else is not sure of you.—STEWART E. WHITE.

Professional Courtesy

THERE are certain things that, if they are not reckoned as a part of our code of medical ethics, ought to be so reckoned. If a physician advertises his skill in the newspapers, he will probably be expelled or excluded from his local and national medical societies; but if he steals a patient who is referred to him by a brother practitioner, he can usually get away with it, because it is hard to prove.

Because a man has never been in jail, it does not necessarily follow that he is an honorable, high-minded gentleman.

When another physician refers a patient to you for some particular form of treatment which he does not feel competent to administer, or for an opinion on some phase of the case which he feels he is not qualified to evaluate, he is paying a high compliment, not only to your professional acumen, but to your integrity and honor. He is giving you an opportunity to undermine his influence with that patient in ways for which he can never call you to account.

Whenever you are called in consultation in a case, it is because the man who calls you believes that your opinion will be valuable to his patient, in that particular case. The family and friends of that patient can easily be made to believe that your opinion is more valuable than that of the regular consultant upon all matters—if you would be mean enough to attempt such a thing.

We firmly believe that the overwhelming majority of all physicians are punctilious, unselfish gentlemen, but there must be a certain number who are not, else why should there be the reluctance to refer cases and to call consultants in many sections of the country, particularly in the smaller communities?

The etiquette of these professional functions, like that of most other affairs of life, is based upon the golden rule—do nothing to the other fellow which you would not be perfectly willing to have him do to you. It may not be amiss, however, to call attention to some of the details.

When a case is referred to you for an examination and an opinion, the reports of your findings should be made *to the referring physician*, not to the patient. The man in charge of the case can probably form a better general opinion of the case than you can and is better qualified, after a study of your findings, together with what he knows about the patient, to decide what form of treatment is indicated. Give him a chance, in any case.

If you are called upon to give some special form of treatment, that does not necessarily mean that you are better qualified than the referring physician to advise the patient as to other matters. Probably your opinion, outside of your specialty, is of less value than his. If you *think* you see other things which ought to be done for the patient, *consult the regular attendant before doing them.* In this way you may save yourself from embarrassing mistakes, and you are almost sure to make a professional friend.

When you are called in consultation, be sure that you have, *tactfully*, obtained sufficient information about the case so that you can form an intelligent opinion. Talk the matter over with the doctor in charge and *listen to what he has to say.* It may be that he has some valuable ideas. When you two have reached a decision as to the diagnosis, prognosis and treatment, let *him* convey this decision to the patient and the family, (unless he *asks* you to do so), and then corroborate his statements. It is rare that you can not *honestly* say something which will confirm their faith in their regular medical attendant. Do you always say it? Would you like to have others say that kind of things about you?

Remember that when one of your confreres refers a case to you or calls you in consultation he is placing his professional reputation in your hands. The higher your standing, the more people—both doctors and

laymen—are looking up to you, not only as regards your medical knowledge, but as to your caliber as a man and a gentleman. Is your conduct always such as to bring credit and respect upon your high and noble profession?

The greatest hope for the medical fraternity in these troublous times lies in the closest possible cooperation, the most implicit confidence, and the highest degree of solidarity of aims and principles among its members, and these are possible only if every one of us conducts himself, at all times, with the most meticulous professional courtesy, based upon an altruistic desire that the greatest good may accrue to the greatest number.

NEXT MONTH

Dr. James H. Hutton, of Chicago, will present his further observations on the treatment of essential hypertension and diabetes by irradiation of the pituitary and adrenal glands.

Drs. C. A. McKendree, J. Shufleton, and D. S. Dooman, of New York City, will offer some interesting observations regarding the mechanism of pain (with an original diagram) and the treatment of dysmenorrhea.

Dr. Lane Bruce Kline, of Newington, Conn., will continue his instructive three-part article on surgery in respiratory diseases with the first section of his discussion of surgery in tuberculosis.

COMING SOON

"Spinal Anesthesia," by R. S. Hubbs, M.D., Sheridan, Wyo.

"Nutrition in Nervous and Mental Diseases," by Erwin Wexberg, M.D.. New Orleans, La.

A man's ledger does not tell what he is, nor what he is worth. Count what is *in* man, not what is *on* him, if you would know what he is worth—whether rich or poor.—HENRY WARD BEECHER.

Red Cross Health Work in Flood Areas

PROVIDING adequate medical and nursing care for ill flood victims and guarding against epidemics among the many refugees temporarily housed in public buildings and tent camps was an important part of the Red Cross disaster relief job last winter, when the Ohio and Mississippi Rivers overflowed their banks.

Red Cross doctors and nurses, working in conjunction with local physicians and health authorities, did yeoman service in the 300 emergency field hospitals and 1000 refugee centers and camps where refugees were temporarily cared for by the Red Cross. It is due largely to their splendid work that no serious outbreak of communicable disease occurred.

An outstanding example of prompt action to curb a serious epidemic occurred at Jonesboro, Arkansas, when spinal meningitis symptoms were exhibited by a child in a large refugee tent housing forty persons. This child was immediately placed in isolation, in a smaller tent hastily erected away from the main camp. In the next few days several more cases of this disease developed and were likewise isolated. Those living in the tents from which the meningitis patients came were placed in strict quarantine, also, to prevent the spread of the disease throughout the camp. As the number of cases increased, the Red Cross erected a wooden building to be used as an isolation hospital and provided a special corps of doctors and nurses and all necessary equipment to give them the best possible care. In all, nearly two score cases of this disease developed, but without the prompt precautionary actions of the Red Cross this epidemic might have swept the entire camp.

Everyone can have a share in the disaster relief work of the Red Cross and in all its other service programs by enrolling in his local Chapter as a member during the Roll Call, held from November 11 to 25.

LEADING ARTICLES

Spinal Segmental Desensitization by the Intraspinal (Subarachnoid) Injection of Alcohol

Report of 193 Injections in 103 Patients*

Elias Lincoln Stern, M.D., F.I.C.A., New York City
Surgeon, Department of Sympathetic Neural Surgery, Sydenham Hospital
Instructor in Anatomy, Columbia University

THAT segments of the spinal cord may become hyperirritable is a fact which has been expressed many times. Afferent, irritative impulses, reaching the spinal cord via sensory (somatic) nerves, are believed to cause such irritability. Afferent impulses reaching the cord via the sympathetic nerves may likewise cause hypersensitivity of spinal segments.

Referred pain, and pain of obscure origin, may well result from such "hyper-potential" segments, and may even persist after the original and more distal irritating lesion is completely removed.

Spinal segmental hyperactivity occurs normally in various physiologic reactions, and may or may not be accompanied by pain or modified pain sensations. The sensation accompanying ejaculation and orgasm are concommitant with transitory, hyperirritable states of the lumbar and sacral segments. Delayed urination or defecation, sneezing, and coughing may have accompanying pain, due solely in part to hyperactive segments.

Status asthmaticus may well be due to hypersensitive segments concerned with the innervation of the lungs, for surgical and nerve-blocking procedures, aimed at interrupting the involved reflex arcs whose centers are located in the lower cervical and upper thoracic segments of the spinal cord, have been found of value. Hyperthyroidism, essential hypertension, Raynaud's disease, and thrombo-angiitis obliterans are some other pathologic states which may be considered from this angle.

Spinal segmental desensitization is the process of blocking the impulses which pass through the dorsal nerve roots on their way to the spinal cord and brain. While ordinary spinal anesthesia may produce segmental desensitization lasting a few hours, the blocking effect of alcohol may last as long as one, two, or three years. Because alcohol can be localized at the region of injection, whereas ordinary spinal anesthetics are quickly diffusible, the action of the alcohol can be confined to two or three segments on one side. The degree and extent of alcohol desensitization can be varied by the dose and technic used in the injection[1].

In addition to the hypesthesia which results from such an injection, there is a depressant effect on the related portion of the sympathetic nervous system (see Fig. 1). Not only are the somatic and sympathetic regions innervated by the blocked nerve roots desensitized by this method, but also the corresponding segments within the spinal cord itself, since the total number of afferent impulses received by the spinal cord are reduced. By multiple alcohol injections, extensive regions of the spinal cord may be more or less permanently desensitized.

In August, 1934, I reported a series of 50 intraspinal subarachnoid injections of alcohol for the relief of intractable pain [1]. Since that time, I have given an additional 143 injections. Reports of complications are beginning to appear in the literature,[2, 3] as well as reports of satisfactory injections[4 to 21].

This presentation furnishes further proof that this method of therapy is a perfectly safe and practical one, when carried out properly. While the earlier injections were made primarily for the relief of intractable pains principally due to cancer, the field of usefulness for this method of nerve blocking has widened to include various peripheral vascular disturbances[7] and other disorders of the sympathetic nervous system[15, 23].

It is not necessary to repeat the details of technic nor the description of the immediate and remote results, which have now been fully recorded by Dogliotti and by me. Suffice it to say that this method has many times relieved unbearable pains of a most intractable nature.

While these observations were being made,

*From the Department of Anatomy, College of Physicians & Surgeons, Columbia University, and the Department of Sympathetic Neural Surgery, Sydenham Hospital, N.Y.C.

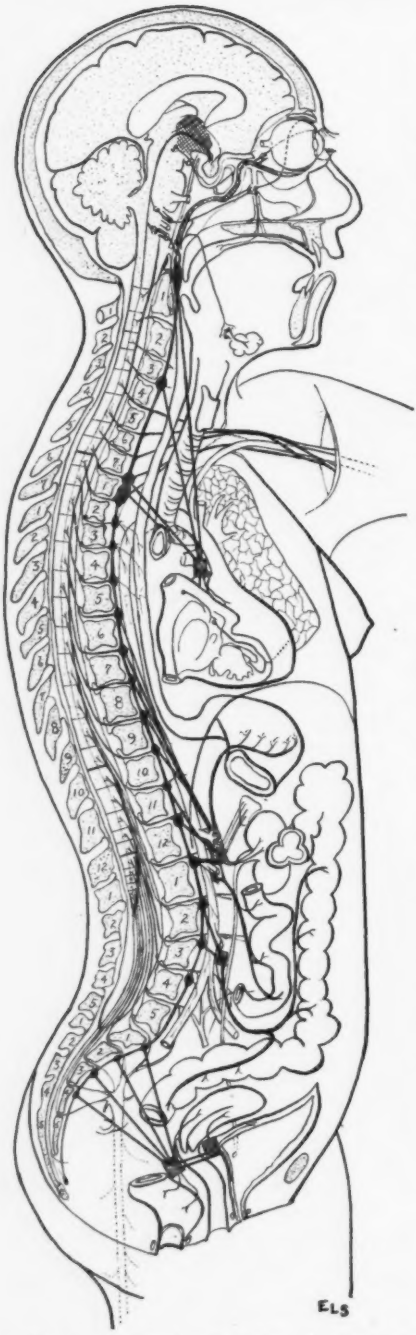

Fig. 1:—Segmental arrangement of spinal cord, somatic and sympathetic nervous systems. From two to four consecutive sensory roots on one side may be permanently blocked by a single injection.

I have accumulated other data to show unquestionably that the sympathetic nervous system can be segmentally affected by this approach. Circulation has been improved in cases of thrombo-angiitis obliterans[7]. Perceptible increases in the temperature of peripheral parts have followed intraspinal alcohol injections. Gangrenous toes have been favored by this increase in blood supply, so that amputations were avoided. This increase in circulation appears to be more permanent than that produced by many other accepted methods of treatment. Where hundreds of intravenous saline injections have failed in a particular case, intraspinal injection of alcohol gave relief. Where peripheral nerve section failed, alcohol, intraspinally, succeeded. This newer method of relief is undoubtedly accompanied by a relaxation of the vasomotor nerves to the blood vessels and the removal of vascular spasm, which often exists in this disease to an appreciable degree.

Besides the relief of pain following intraspinal injections of alcohol, the skin supplied by the segments affected often becomes dry and warmer than that on the corresponding opposite side. There is an absence of sweating and of pilomotor response, similar to that seen in observations made on cats[13]. In patients into whom alcohol has been injected in the upper thoracic region (Th. 1 to 5), typical Horner's syndromes were produced, and the ciliospinal reflexes were abolished. Such observations undoubtedly point to an effect upon the sympathetic nervous system.

Mechanism of the Effects

A lower motor neurone (anterior horn cell) can function only when its associated sensory neurones are intact and physiologically active[22]. Disturbances on the sensory side will cause disturbances on the motor side of the corresponding segment, depending on the type and number of sensory fibers blocked (Fig. 2-A). With the removal of only the superficial touch, pain, and epicritic sensations, there is practically no abnormality of motor function. When muscle, tendon, and joint sensations are blocked, one may observe degrees of motor impairment varying from ataxia and muscular weakness to complete "paralysis." This type of paralysis should be called "sensory-motor paralysis," to differentiate the condition from a true lower motor neurone paralysis, such as occurs in anterior poliomyelitis. Sensory-motor paralysis due to blocking is usually reversible, but should be avoided in most cases of pain relief. Motor function returns within a few hours, days, or weeks, depending upon the number of dorsal root fibers which are blocked. True lower motor neurone paralysis is irreversible, and the loss of motor function is usually permanent.

"Paralysis" of the sympathetic nervous sys-

tem is due to a similar action upon the *afferent* sympathetic neurones (Fig. 2-B). These sensory neurones traverse the dorsal roots (some authorities believe that sympathetic motor neurones may also traverse the dorsal roots). Blood vessels and internal organs are endowed with nerves which transmit impulses

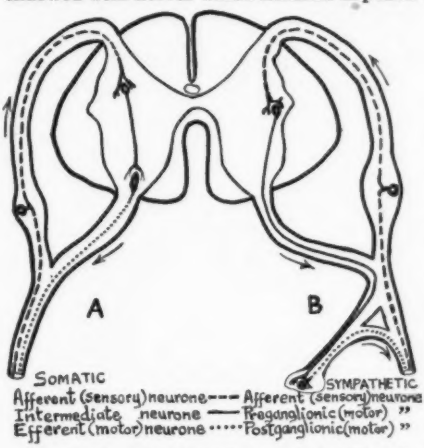

Fig. 2:—Somatic (A) and sympathetic (B) reflex arcs. Alcohol in *small* doses has a selective affinity for the superficial touch and pain fibers (somatic and sympathetic), in the dorsal roots. Larger doses may cause complete interruption of all types of sensation, with resulting functional paralysis of both somatic and sympathetic reflex arcs. Loss of muscle, tendon, and joint sensations, without interruption of the anterior roots, causes motor paralysis, while interruption of afferent sympathetic nerves causes sympathetic paralysis.

centripetally, and whether they belong to the central nervous system or are actually sympathetic fibers is immaterial. When these afferent fibers are blocked, paralysis of the efferent or vegetative neurones ensues. The action and reaction in the sympathetic reflex arc corresponds to what happens in the somatic reflex arc. Sympathetic afferent neurones are more vulnerable to alcohol than are the neurones conveying muscle, tendon, and joint sensations. Sympathetic sensory-motor paralysis is, therefore, more lasting than somatic sensory-motor paralysis.

Bladder and rectal incontinence of a permanent nature has been associated with severe lesions of the spinal cord. These complications have been observed following the injection of more than 10 minims of alcohol into the lower spine, but here they are of a transitory nature. Undoubtedly the incontinence is due to a sensory paralysis of the bladder and rectum, and complete function returns with the restoration of sensation.

Given a case of motor paralysis, with bladder and rectal incontinence, and even with a positive Babinski reflex, one should not conclude that a severe lesion of the spinal cord exists. Such a hasty conclusion may evoke a very gloomy prognosis, and the physician making such diagnosis and prognosis, may become embarrassed when these complications completely disappear within a relatively short time. Positive Babinski reflexes have been noted in sensory-motor paralysis.

Classification of Data

The patients I have injected may be classified in four groups, as shown in Chart I.

The types of painful cancer injected with alcohol, and the amount of relief afforded by each injection, are shown in Chart II. About 50 percent of the injections afforded complete or almost complete relief; 28 percent resulted in about 50 percent relief; the remaining injections afforded only slight relief. These results correspond favorably with those obtained by Dogliotti[11].

Chart III groups the types of peripheral vascular disease. The pain factor was usually controlled by the first or second injection. Subsequent injections were then given to paralyze the vasomotor nerves and to allow for increase in circulation. Of the three conditions treated, the thrombo-angiitis obliterans group improved the most, the arteriosclerotic, the next, and the diabetic-endarteric, the least. This probably corresponds with the degree of vasospasm which exists in these various conditions. Some of these patients received as many as eight injections and had no bladder or rectal complications, and no paralysis of muscles, showing that these injections can be repeated with safety.

In the group of orthopedic cases (Chart IV), the results were not quite so satisfactory as with the cancer group. About 30 percent of the cases received complete or almost complete relief; 13 percent obtained 50 percent relief; and 38 percent slight relief. The remaining cases are too recent to permit drawing any conclusions.

The miscellaneous cases are grouped in Chart V. Nearly all of these cases presented special problems. Some of these abstracted case records are appended; others have been reported in a special article[23].

Chart VI is an outline of the first 150 injections showing the levels and amounts used at each injection, and the injections which resulted in bladder and rectal dysfunction. None of the remaining 43 injections uncharted, had any complications.

Three types of alcohol were used. In the first 50 injections reported[1], sterile, 95-percent alcohol was injected, and then also for the next 18 times. The second solution used was absolute alcohol, sterilized after filtration.* This was used in the subsequent 69 injections, with slight improvement over the results obtained with the 95-percent alcohol. In some

*The sterile alcohols used were kindly furnished through the courtesy of Endo Products, Inc., N.Y.C.

instances, the absolute alcohol was exposed to ultraviolet rays for varying periods before use, in order that certain oxidation products of the alcohol (acetaldehyde, ethyl acetate, and acetic acid) might increase its anesthetizing properties[24]. In the remaining 13 injections, as well as in the other 43 injections not charted in VI, absolute alcohol containing a slight amount of methylene blue (0.01 percent) was used. This preparation was found to have had a definitely more pronounced action on the sympathetic nerves and is an improvement over the plain absolute alcohol. Continued research is being directed towards further modification of this solution.

Complications

With these first 150 injections, bladder and rectal incontinence followed in 8 cases; bladder dysfunction alone in 6 cases; and rectal incontinence alone in one case, which already had a suprapubic drainage for an obstructing carcinoma of the prostate.

Three (3) bladder and rectal complications, and one of bladder retention were first noted after tabulating the results of the first 50 cases injected. All these were found to have occurred when unilateral injections of 16 minims of 95-percent alcohol had been placed between the 2nd and 3rd lumbar spines.

In the other 100 injections, 4 cases of bladder and rectal incontinence occurred, but all were anticipated at the time of the injection. These cases were: a carcinoma of the bladder, where 18 minims of absolute alcohol were injected between the 2nd and 3rd lumbar spines; a case of stricture of the urethra, where 14 minims of methylene blue-absolute alcohol were injected at the same level; a case of carcinoma of the breast with spinal metastases, in which 18 minims of absolute alcohol were injected between the 3rd and 4th lumbar spines; and a case of dystonia musculorum deformans, with generalized painful spasms of a most excruciating nature, in which 3 cc. and 5 cc. doses of 95-percent alcohol were injected between the 6th and 7th thoracic and 5th and 6th thoracic spines, respectively. This progressively fatal case was relieved of the painful spasms after everything else had failed, but he developed triplegia, trophic ulcerations, and rapid emaciation, which resulted in death in six weeks[16].

In one case, following an injection of 16 minims of absolute alcohol between the 4th and 5th thoracic spines for intractable bronchial asthma, bladder and rectal incontinence and inability to move the lower extremities occurred, but function began to return rapidly. This may have been due to an allergic reaction within the spinal canal[25]. A similar injection, in another severe asthmatic case, had been followed by remarkable relief and no such complications.

Of the minor complications occurring in the same 100 injections, and lasting only a short time, the following were noted:

1.—A delay in starting urination followed 12 minims of absolute alcohol, injected between the 3rd and 4th lumbar spines.

2.—Urinary retention followed 13 minims of methylene blue-absolute alcohol, injected at the same level.

3.—Prolongation of urination followed 16 minims of 95-percent alcohol, injected between the 4th and 5th lumbar spines.

4.—Urinary retention, with leakage on coughing, followed 16 minims of absolute alcohol, injected at this same level.

5.—Prolongation of urination and rectal incontinence after castor oil followed an injection of 12 minims of 95-percent alcohol injected at this same level.

The patient with the suprapubic drainage and carcinoma of the prostate had 30 minims of 95-percent alcohol injected between the 10th and 11th thoracic spines on the left side. Rectal incontinence followed, and in addition, ataxia and occasional painful spasms of the lower limbs, lasting a few days. This was a late case with multiple metastases to the spine and pelvis, in whom three previous injections, of 16 minims of 95-percent alcohol each, had been given at about the same level, with only partial relief.

Of the last 43 injections given, none were followed by any bladder or rectal complications.

While the actual placing of alcohol, in the proper dose, into the spinal subarachnoid space has proved both feasible and practical, the real dangers, I believe, are associated with the actual technic of getting the spinal puncture needle into the subarachnoid space without injuring nerve tissue. In the lumbar region it should not be difficult to get clear spinal fluid on the first thrust of the needle; and still I have seen men poke around any number of times, undoubtedly injuring the cauda equina or spinal cord, and finding the greatest difficulty in getting into the subarachnoid space. In the upper thoracic region, the spaces between the dorsal plates and spines of the vertebrae are normally very small, and on account of the inclination and length of the spinous processes, one may have to insert the needle five or six inches before the subarachnoid space is reached. Sometimes the heavy, yellow-elastic interspinous ligament fails to meet in the midline and leaves an unguarded region to the advancing point of the spinal needle. Hypertrophic changes of the vertebrae, rotation and other deformities of the spinal column, previous

laminectomies, and low spinal fluid pressures are some of the other factors which may make the "simple" spinal tap a very difficult or even impossible procedure. Should nerve tissue be traumatized, the injection of alcohol should under no circumstances be made, since the effects are many times enhanced when nerve tissue is injured[26].

A more detailed article on how to avoid complications and some of the contraindications for the use of this method has just been published[27], while a complete list of the indications has just appeared[28].

CHART I.

	Patients	Injections
Cancer	50	89
Peripheral Vascular Diseases	12	36
Spinal-Orthopedic	16	30
Miscellaneous	25	38
Total	103	193

CHART II.

Cancer Patients

	Cases	Injections	Relief 100%	50%	10%	?
Breast: Spinal Metastases	6	13	6	6	1	0
Ribs	1	1	0	0	1	0
Lung	1	1	1	0	0	0
Stomach	5	5	5	0	0	0
Ascending Colon	1	1	0	1	0	0
Transverse Colon	1	2	1	0	1	0
Sigmoid Colon	2	3	3	0	0	0
Rectum and Anus	10	19	8	7	3	1
Bladder	1	5	0	0	5	0
Kidney	1	2	2	0	0	0
Prostate: Spinal and Pelvic Metastases	8	13	5	2	6	0
Cervix-Uterus	6	8	3	1	2	2
Pubis	1	1	1	0	0	0
Ilium	1	1	0	0	1	0
Ankle	1	1	0	1	0	0
Abdominal Wall (Pelvis)	1	3	3	0	0	0
Spine: Lumbar Metastases From Sarcoma Hand	1	1	0	0	1	0
From Thoracic-Primary	2	9	1	7	0	1
Total	50	89	39	25	21	4

CHART III.

Peripheral Vascular Diseases

	Cases	Injections
Thrombo-Angiitis Obliterans	5	26
Arteriosclerosis	4	6
Diabetic Endarteritis	3	4
Total	12	36

CHART IV.

Spinal-Orthopedic Patients

	Cases	Injections	Relief (Cases) 100%	50%	10%	?
Radiculitis: Hypertrophic Spondylitis	7	17	3	1	3	0
Sciatica	5	5	1	1	3	0
Tabetic Pains, Lower Limb	1	1	1	0	0	0
Charcot Spine, Lumbar Region	1	4	0	1	0	0
Osteo-arthritis, Hip Joint	1	1	0	0	0	1
Old Fracture, Neck of Femur	1	2	0	0	1	0
Total	16	30	5	3	7	1

CHART V.

Miscellaneous (25 cases; 38 injections)

1.—***Aortic Aneurysm*** **(1 patient; 2 injections): Parasternal pain on right side relieved by paravertebral injections; pain shifted to right side of chest under arm. Relieved for one week by intraspinal injection. Second injection given; pain shifted nearer spine; not so severe. Subarachnoid spinal fluid blockage in region of first injection. Sudden death from ruptured aneurysm (undiagnosed) one month later.**

2.—***Angina Pectoris*** **(3 patients; 3 injections): Complete relief in all cases.**

3.—***Essential Hypertension*** **(1 patient; 4 injections): Three injections of right splanchnic segments; one left side. Slight lowering of blood pressure. Complete relief of nervous tension and early hyperthyroid symptoms and signs.**

4.—***Asthma*** **(3 patients; 3 injections): Remarkable relief of asthma in one case,[25] with return to work after 4½ years' illness. Relief of asthma with complications in second case. Cardiac asthma relieved in third case.**

5.—***Intractable Hiccuping*** **(1 patient; 1 injection): Diaphragm desensitized by injection of 18 min. absolute alcohol left Th.5-6. Depth and frequency of hiccuping lessened. Cured by psychotherapy.**

6.—***Gastric Ulcer*** **(1 patient; 1 injection): Gallbladder removed, and second exploratory operation did not stop severe pain, right upper quadrant. No relief from paravertebral injections. No relief from intraspinal injection 10 min. meth. blue-absolute alcohol right Th. 6-7. Diagnosis first established at autopsy 6 weeks later, after sudden perforation and fatal hemorrhage. Patient had been committed; hospital diagnosis, "involutional psychosis; melancholia."**

7.—***Duodenal ulcer—pulmonary tuberculosis*** **(1 patient; 2 injections): Slight relief. Drug addiction.**

8.—***Gastrojejunal Ulcer*** **(1 patient; 1 injection): Relief of severe pain left side of abdomen after injection 13 min. meth. blue-absolute alcohol left Th.11-12; developed slight pain right lower quadrant. (Bilateral innervation of stomach requires second injection.)**

9.—***Alcoholic Neuritis of all Four Extremities*** **(1 patient; 1 injection): Remarkable relief of excruciating pains, after being bedridden six weeks, following *single* injection 16 min. 95-percent alcohol right Th.12- L.1.**

10.—***Acute Herpes Zoster*** **(1 patient; 1 injection): Remarkable relief, disease period shortened, following injection 16 minims, 95-percent alcohol right Th.12- L.1. Alcohol infiltrates to dorsal root ganglia; this may be a specific treatment for this condition[4].**

11.—***Chronic Herpes Zoster*** **(1 patient; 1 injection): Moderate relief in 85-year-old woman in whom posterior rhizotomy had failed. Injection 8 minims, 95-percent alcohol, left Th. 9-10, above laminectomy.**

12.—***Intercostal Neuritis*** **(1 patient; 1 injection): Slight relief of pain in wound after removal of benign breast tumor.**

13.—***Interscapular Pruritus.***—**(1 patient; 2 injections): Six years' duration, referred for ovarian condition. Moderate relief.**

14.—***Polycythemia Vera: Gangrene of Toes Due to Thrombosis*** **(1 patient; 1 injection):**

CHART VI

150 INTRASPINAL (SUBARACHNOID) INJECTIONS OF ALCOHOL*

LOCATION AND AMOUNTS IN MINIMS

RIGHT				SPINOUS PROCESSES	LEFT			
METH. BLUE ABSOLUTE ALCOHOL	ABSOLUTE ALCOHOL	95% ALCOHOL	TOTAL		TOTAL	95% ALCOHOL	ABSOLUTE ALCOHOL	METH. BLUE ABSOLUTE ALCOHOL
				7th CERVICAL THORACIC 1	1	11		
		10	1	2				
				3	1		12	
	12,16		2	4	1		8	
	12,16,(16)	8	4	5				
	8,12,16	12,16,16	6	6	4	16,(30)	10,18	
10	8	16	3	7	1	(48)		
		16	1	8	3	8	8,16	
	8,16	8	3	9	2	12,16		
	12,16,16		3	10	2	8	16	
	8,9	10,12,16	5	11	2	(30)	16	
8,8	10,12,16 16,16,16,16	16,16	11	12	6	16,16,16	10,16	13
8,8,16	16,16,16 16,16,16	12,16,16,16 16,16,16,16 16,16	19	LUMBAR 1	15	11,14,16 16,16,16 16,16,16	10,10,10 12,16	16
	12,13,16,16	12,12 16,16,16	9	2	8	8,8,14,16	8,16,16,16	
(14)	6,8,(16)	8,(16),16,16	8	3	8	8,8,14 (16)(16)16	9,9	
12	12,12,16 16,16,(16)		7	4	8	8,14	8,12,16	12,13,13
	12,16,16	16	4	5	2	12,16		
TOTAL 8	45	33	86		64	35	24	5

*Injections underlined - minor bladder complaints.
Injections circled - bladder and rectal incontinence.

Double circled - paralysis plus bladder and rectal incontinence.
80 and 48 min. doses together - triplegia, bladder and rectal incontinence, complete sensory loss, trophic ulcerations, inanition, and death in six weeks.

Complete relief of pain in toes; surgical dressings possible after injection. Slight improvement in circulation. Died three months later from cerebral thrombosis.*

15.—*Chronic Subdeltoid Bursitis* (1 patient; 1 injection): Relief first two days. Submitted to operation after five days.

	Cases	Average Increase	Cases	De-crease	No Change
R. B. C.	10	473,000	9	210,000	
HGB.	12	9%	6	7	1
W. B. C.	13	1,734	5	2,500	1
Neutroph.	13	9	6	12	
Lymph.	8	10	9	7	2
Eosin.	4	2.5	7	3	8
Mono.	10	2.3	7	4.4	2

*Complete blood counts were made before and 24 hours after injection, in 19 cases. There was an average increase of 150,000 R.B.C., 3.5% hemoglobin, and 525 W.B.C. in 24 hours. The rest of the blood picture was relatively unchanged. It is difficult to explain the average increase of R.B.C. of 473,000 in ten cases, and an increase of 9% hemoglobin in 12 cases, after the intraspinal injection of alcohol.

16.—*Small Renal Calculi: Reflex Ureteral Spasm* (2 patients; 4 injections): *Case 1:* Pains left upper thorax; after first injection for this area pains localized over left lumbar region. G.U. x-ray study revealed for first time "silent" stone in pelvis *right* kidney. After second injection for left lumbar region, pain transferred to right lumbar region. Third injection on right side now gave moderate relief of residual pain; ureter relaxed, and allowed stone to descend. Operative removal finally necessary. *Case 2:* Small right renal calculus descended to bladder following single injection 12 minims, 95-percent alcohol right Th. 10-11, after over 50 ureteral dilatations had failed.

17.—*Ptosed Kidney* (1 patient; 1 injection): Slight relief.

18.—*Stricture Prostatic Urethra* (1 patient; 3 injections): Severe pains radiating from anus to tip of penis; No. 12 F. largest sound passable under general anesthesia. First injection 12 minims, meth. blue-absolute alcohol, left L.3-4, completely relieved pain on left side. Two injections on right side, 12 and 14 minims L.3-4, and L.2-3, respectively, completely relieved residual pain. Dilated to No. 26 F. within two weeks; no pain, no anesthesia necessary.

19.—*Drug Addiction* (1 patient; 3 injections): Pains shifted to new areas with each injection; no relief. Addiction not discovered until after third injection; committed.

20.—*Dystonia Musculorum Deformans* (1 patient; 3 injections): Relief of generalized painful spasms uncontrollable except with general anesthesia. Progressively fatal disease; lesion of unknown etiology in corpus striatum. Three large doses relieved patient for six weeks. Developed triplegia, bladder and rectal incontinence, trophic ulcerations, rapid emaciation and died. Case reported.[16]

Total: 25 patients; 38 injections.

Summary

1.—Intraspinal (subarachnoid) injections of alcohol desensitize, segmentally, the somatic and sympathetic nerves, as well as the spinal cord itself.

2.—Results of 193 such injections are reported in detail. Twenty (20) unusual applications, with some remarkable results, are recorded in tabular form.

3.—Best results were obtained by using sterile absolute alcohol containing a small amount of methylene blue (0.01 percent).

4.—Bladder and rectal complications, as well as motor complications, can be avoided in most cases.

5.—Intraspinal alcohol therapy is being used more and more. Reports of complications are beginning to appear in the literature, usually by the inexperienced.

6.—The method is invaluable in relieving intractable pains of cancer, neuritis, and neuralgia. It is of definite value in treating certain disorders of the sympathetic nervous system.

7.—Intraspinal alcohol therapy may replace such open operations as chordotomy, posterior rhizotomy, sympathetic ganglionectomy and neurectomy, periarterial sympathectomy, peripheral nerve section, splanchnic section, presacral neurectomy, adrenal and ureteral denervation. The injection of alcohol intraspinally is a simple, safe, and non-shocking procedure, compared to these operations.

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1 East 79th St.

A Logical Treatment of Chronic Arthritis

By J. Krevin Leir, M.D., Jersey City, N.J.

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LITERATURE on rheumatoid conditions is, perhaps, more extensive than that on any other disease. To review it is superfluous, for this has been done most thoroughly by the Hench Committee, in its third rheumatism review, published in the December, 1936, number of the *Annals of Internal Medicine*[1]. A further extensive bibliography is appended to the "Primer on Rheumatism" (Chronic Arthritis)[2], by the American Committee for the Control of Rheumatism, published by The American Medical Association, and also to the report of the British Medical Association Committee[3] which appeared in the *British Medical Journal*, I, 1933.

In these publications, every etiologic factor and form of treatment were thoroughly considered, and as a result of these various opinions, the following statement appears proper:

1.—No adequate remedy or method for the treatment of arthritic conditions has been available up to the present time.

2.—A new and wider conception of the disease and elimination of the time-worn ideas of etiology and treatment are necessary and a different approach is justified.

Viewing the problem from the standpoint of the practitioner who is closest to the patient, his history, and his personal reactions, it is rational to give heed to the many arguments centering around the digestive tract.

A great majority of the arthritic patients calling at our clinic reported their first symptoms as being accompanied by or following intestinal dysfunction. It appears wise, therefore, to seek some method of correcting what may well be the true cause of the disease.

I advance the theory that arthritic and rheumatic conditions may have their inception in, or are the result of long-standing derangement of the entire intestinal tract,[4] including dysfunction of the liver and gallbladder,[5] with putrefactive fermentation[6] and toxemia[7] from the intestines naturally following.

Basing the attack on arthritis upon the idea that the gastro-intestinal tract may be the fundamental etiologic factor in rheumatoid conditions greatly simplifies the problem of treatment in the majority of the cases. The success attained will, of course, depend on the soundness of the medication, the rationale of the diet and living habits, and the fact that the treatment should have the quality of a basic corrective, rather than analgesic action only.

As a basic treatment over a period of two years, at the Jersey City Medical Center, I have employed a new compound which, for the purpose of identification, will be referred to in this article as the "Test Product." This compound is the calcium double salt of benzoic and benzyl succinic acids.* It, therefore, makes available its component parts, the pharmacology of which is well established. They combine the favorable function of benzyl succinate with that of benzoic acid. Both drugs have been known for years, their combination, however, being novel.

Benzyl succinate is of special value in affections of the gallbladder, the succinic radical tending to liquefy the bile, while the benzyl radical relaxes the neck of the gallbladder and the ducts. There also appears to be some disinfecting action on and in the bile. The benzoic radical is well known for its value as an intestinal antiseptic.[8] It is also recognized as a cholagogue, and its importance in arthritis may well be due to its rôle in the promotion of detoxification, in which many authors consider the liver the organ of the first importance.[9]

Before starting the clinical study, animal experiments were made by Dr. A. M. Gnassi, chief of the pathologic laboratory, who reported as follows:

"Rabbits weighing from 34 to 36 ounces were given from 30 to 60 grains (2 to 4 Gm.) of the calcium double salt of benzyl succinic and benzoic acids. For one hour the animals exhibited restlessness and an increased rate of respiration, both conditions gradually subsiding. Within three hours, the animals

*Manufactured by the Seydel Chemical Co., Jersey City, N.J., under the name of "Subenon."

were quiet, and became absolutely normal within five hours. No toxic effects were observed, and the animals were alert and entirely devoid of reaction at all times."

It should be noted that an almost total lack of toxicity was shown, and no lethal dose was found on oral administration, even in massive quantities.

The clinical investigation included 200 cases of practically every form of definite chronic atrophic and hypertrophic arthritis that could be found among ambulatory patients. Their histories varied from three months to twenty-five years of suffering, and most of them had previously been treated in various ways.

Before beginning treatment, a positive diagnosis was confirmed by x-rays and other recognized clinical tests.

Using the "Test Product" as the basic medical treatment in all forms and stages, adjunct treatments, in the form of diet, physical therapy, and nonspecific proteins, were employed when indicated in selected cases.

In this series, however, the "Test Product" was continuously employed as the basic medication and, in my opinion, was the principal agent in contributing to the results obtained. It was observed that, with few exceptions, there were no systemic reactions with the "Test Product," such as are so apparent with many of the accepted forms of treatment, and gastro-intestinal and cardiac disturbances were conspicuously absent, regardless of the dose or the period of administration. I have avoided harsh laxatives, feeling that the after-effects may be injurious.

It is my opinion that the accepted tests, which have been followed so persistently (sedimentation, blood counts, urinalyses, x-ray studies, etc.), are of little value except for diagnostic or corroborative purposes, giving meager evidence as to the actual progression or retrogression of the disease other than what is shown in the clinical picture.

PERCENTAGE RESULTS IN EACH TYPE ARTHRITIS

Atrophic Cases—45	*Cases*	*Percentages*	
0	6	13⅓%	
x	6	13⅓%	
xx	14	31%	
xxx	15	33%	73%
xxxx	4	9%	
Hypertrophic Cases—136			
0	29	21⅓%	
x	24	17⅔%	
xx	39	28½%	
xxx	37	27¼%	61%
xxxx	7	5¼%	
Mixed Cases—19			
0	3	16%	
x	7	36¾%	
xx	8	42%	
xxx	1	5¼%	47¼%
xxxx	0	00	

"Test Product" Therapy Alone
140 Cases

0	28	20%	
x	22	15-5/7%	
xx	44	31-3/7%	
xxx	39	27-6/7%	64-2/7%
xxxx	7	5%	

"Test Product" Therapy With Adjuncts—60 Cases

0	10	16⅔%	
x	15	25%	
xx	17	28⅓%	
xxx	14	23⅓%	58⅓%
xxxx	4	6⅔%	

In the accompanying tables:
0 indicates no relief;
x indicates slight relief;
xx indicates moderate improvement;
xxx indicates good results;
xxxx indicates excellent results.

The accompanying tables are intended to show my evaluation of the results. It will be noted that greatest improvement was shown in the atrophic type, always considered the most intractable. Also, in the entire series it will be seen that 70 percent of the cases were treated with the "Test Product" alone, with decidedly better results than those in the 30 percent in which it was thought that adjunct treatments might be of value.

It has been my intention to remain conservative in indicating the degrees of improvement which will find ready demonstration in the practices of the readers.

In this study, no mention of control cases has been made. It is my opinion, in the face of unlimited references, that all cases treated in other ways could be considered control cases, and I did not deem it necessary to repeat such clinical experiences.

During this investigation, no patient received salicylates or vaccines of any kind or in any form.

AGES

Age Groups	*Cases*	*% of Total*
10—20 years	4	2%
21—30 years	13	6½%
31—40 years	28	14%
41—50 years	66	33%
51—60 years	54	27%
61—70 years	30	15%
71—80 years	5	2½%

COMPARISON OF SEXES

Males	55 cases	27½%
Females	145 cases	72½%

DURATION OF TREATMENT AT THIS INSTITUTION

1 Month	8 Cases
2 Months	44 Cases
3 Months	50 Cases
4 Months	23 Cases
5 Months	15 Cases
6 Months	12 Cases
7-12 Months	19 Cases
12-15 Months	29 Cases

DURATION OF DISEASE BEFORE STARTING THIS TREATMENT	
Under 1 year	53 Cases
1-2 years	40 Cases
2-3 years	34 Cases
3-4 years	16 Cases
4-5 years	12 Cases
5-6 years	12 Cases
6-7 years	4 Cases
7-8 years	1 Cases
8-9 years	6 Cases
9-10 years	2 Cases
10-20 years	20 Cases

Complications

The most common complications were: Gallbladder disorders; hypertension and cardiovascular diseases; gynecologic and genito-urinary conditions; secondary anemias; and diabetes.

All patients were treated systematically, as their condition indicated, in addition to arthritic treatment, neither course of treatment interfering with the other.

Summary

Best results were obtained when: (1) Therapy was started in the early stage of disease; (2) thorough treatment (3 months or more) was followed; and (3) close cooperation on the part of the patient was obtained.

A large percentage of these patients had already had teeth extracted before beginning at this Clinic.

The most favorable results should not be expected before three months of treatment, which should be continued for two months after all symptoms have subsided.

During this investigation many cases of acute and chronic rheumatism were treated with most excellent results. Regardless of the etiologic factors involved, it was observed that treatment with the "Test Product" gave more rapid and lasting relief than that in cases formerly treated with salicylates or any other anti-rheumatic medications, and with none of the gastro-intestinal disturbances that usually accompany other forms of treatment. These cases, however, constitute a separate observation and are not a part of the foregoing study.

Conclusions

To me it appears that arthritic conditions are best handled by the prolonged use of this "Test Product," with strict attention to the following steps:

1.—Control of intestinal toxicity.

2.—Proper diet control.

3.—Correction of any focus of infection.

4.—Decreasing nerve tension.

5.—Increasing peripheral circulation.

Clinical results, for the past two years, prove conclusively that, regardless of the age or condition of the patient, a thorough treatment along these lines will benefit a large percentage of cases of either chronic atrophic or hypertrophic arthritis. The combined treatments thus outlined should have a salutary effect on most cases and, in my opinion, constitute the method most likely to bring adequate relief.

Two outstanding deductions were evident: The "Test Product" seemed to check the progress of the disease and alleviated the symptoms; and there was most decided improvement and relief in pain, swelling, fever, and motility of the affected parts, but restoration or repair of damaged parts or pathologic injuries can hardly be expected to be complete.

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THE PRICE OF IGNORANCE

Sooner or later, apart from the destructive heat of religious convictions, we must discover to our people, exactly what price we pay in maternal death and disablement from the interdiction of preventive medicine in the form of birth control; and then let them decide to pay it or not, according to the relative values of the spiritual and physical considerations. To refuse rationally, and not emotionally, to consider the question bespeaks no commendable quality on the part of our health agencies.—JOHN ROCK, M.D., in New England Journal of Medicine, *November 5, 1931.*

Basal Metabolic Values in Exophthalmic Goiter

(Generalizations Gleaned from a Series of 5,000 Cases)

By Israel Bram, M.D., Philadelphia, Pa.

AS a rapid heart, an increased temperature, and other manifestations of bodily disturbances, so also an altered basal metabolic rate may result from many causes and may vary from day to day, and even from hour to hour. Though usually indicative of thyroid disturbance, increased metabolism is observed in many other circumstances, eminently the febrile conditions, neurasthenia, hysteria, the primary anemias, chronic heart and kidney conditions, arterial hypertension, carcinoma, chronic lymphatic and myeloid leukemia, diabetes mellitus, and disturbances of other ductless glands. Pregnancy, too, must be considered. In approximately 65 percent of women pregnancy occasions a rise varying from 10 to 35 percent above normal.

Even under apparently normal conditions the basal metabolic rate* may vary materially. While in the average person in normal health the conventional B.M.R. varies between plus 10 or 12 and minus 10 or 12 percent, many exceptions are noted. During puberty and adolescence (with or without simple colloid goiter), we commonly observe a metabolic rate of minus 14 to minus 20 percent. Individuals of singularly high-strung temperament may present somewhat heightened rate as a congenital trait. Also, an unknown percentage of persons, apparently in average normal health, may present a singular "metabolic temperament," in which the B.M.R. is several points above or below the conventional normal figure.

"Basal" Conditions

A percentage of patients are nervous over their first test and are apt to present a misleading reading. We meet an occasional patient who labors under the impression that she will breathe an anesthetic, not oxygen, and it is with the greatest time-consuming tact and persuasion that she finally and reluctantly consents to going through with the test. Naturally such agitation and apprehension cannot possibly reflect a dependable metabolic rate.

Lack of cooperation is occasionally passive or subconscious, as in the following case:

J. Y., 49, a physician, presented himself for an opinion on his rather immoderate sized thyroid swelling, which was of 15 years' duration. Examination revealed a cystic adenoma with doubtful evidences of toxicity. A basal metabolic test (the first in his life), carefully performed, yielded a reading of plus 62 percent. Realizing that this result was out of alignment with a normal heart rate, he was given another test an hour later, and the reading was plus 4 percent.

The preliminary starvation period imposed upon those who receive the test after their breakfast time may lead to nervousness, hunger pains, and even headache, and thus militate against proper results from a metabolic study. Many patients, especially during their first test, give a better account of themselves if permitted a glass of milk or the juice of two oranges at breakfast time, an hour or two before the test is performed.

A restless, sleepless night preceding the test will conspire against a dependable test. Of course, if exophthalmic goiter or other serious disease is responsible for insomnia, we must accept the situation. But if restlessness is due to domestic worries, fear of an operation, or apprehension over the test itself, this must be anticipated and the patient reassured as a prophylactic against a misleading result. Under such circumstances it may be best to postpone the test for a day or two.

The Technician

It is assumed, of course, that the technician's mechanical technic and the apparatus itself are flawless.

The technician must be a pleasant, tactful person who understands normal and abnormal human nature and is capable of adjusting herself to the varying moods and apprehensions of suffering people. She should be capable of teaching the patient correct breathing during the performance of the test. Many technicians I have observed seem to overlook the fact that the patient's breathing during the test should be of the customary frequency, depth, and rhythm. The adoption of hurried, labored, or excessively deep breathing may lead to an erroneous result.

As an example of inexperience and lack of cooperation on the part of occasional hospital attendants and their influence on metabolic observations, the following case is interesting:

Mrs. D. entered a hospital of about 150 beds for a 2 days' period of observation. She was admitted to the ward and told by the nurse that as soon as the patient in room X died she could have his room. A few hours after admission she saw two other beds in the ward being surrounded by screens. On questioning the nurse for the reason, she was informed that "it is done when they die." The following day, on the death of the

*Henceforth I shall employ the symbols B.M.R. for the term basal metabolic rate in this contribution.

patient in room X, she was given that room, "the shadow of death still hovering in every corner," as the patient subsequently put it. She was given a sedative and slept through the night.

Rather early next morning she was startled out of a deep sleep by the thud of something heavy having been dropped by someone in her room. It was the nurse placing a screen around her bed. Seeing the screen, the patient, believing herself dying, screamed repeatedly: "Am I dying? Am I dying?" Thereupon she was told by the nurse, in a rather sharp tone, that she must "shut up"—that she was not allowed to talk. Without effort on anyone's part to calm the patient, the metabolism instrument was wheeled in and the test was taken. Immediately afterward, the patient overheard several interns discussing the severity of her case. I shall let the reader pass judgment on the value of this B.M.R.

Diagnostic Factors

Taken by and large, the B.M.R. in exophthalmic goiter is high, reaching at times to plus 80 percent and higher. In the presence of the four cardinal signs—exophthalmos, large neck, rapid heart, and tremor—almost anyone can diagnose exophthalmic goiter, and the B.M.R. is superfluous, so far as diagnostic confirmation is concerned. Here tests are useful only in the determination of the severity of the illness. Bulging eyes and a large neck, however, are frequently absent in an otherwise typical Graves' syndrome. It is in these atypical cases that the B.M.R. may be of the highest value in diagnosis.

But even in the average case the B.M.R. is not necessarily indicative of the severity of the disease. Often the condition of the nervous system and of the circulatory tree had best be regarded as the real index of the severity of the thyrotoxicosis. Thus a patient with a perfect myocardium and a pulse rate of 160 a minute, presenting a B.M.R. of plus 65 percent, may not be so severely ill as one whose heart is enlarged and fibrillating, presenting a rate of 100 to 120 a minute, and with a B.M.R. of only plus 25 percent. In the latter case, rather than the former, the prognosis is guarded. Also, we might regard as extremely serious a case in which the pulse rate is but 90 per minute and the B.M.R. is only plus 20 percent, yet the mental status of the patient indicates an impending major psychosis. Again, we must not overlook the patient with a B.M.R. of about plus 15 to 25 percent, who presents outwardly an attitude of stoic calm, but in whom the involuntary nervous system is in such state of tension as to render even a tonsillectomy a hazardous procedure.

Since atypical Graves' disease may mimic many other varied maladies, it follows that B.M.R. determinations are most useful when bulging eyes and large neck are absent. The most important conditions in differentiation are neurocirculatory asthenia, neurasthenia, hysteria, diabetes mellitus, gastric ulcer, so-called "nervous breakdown," arterial hypertension, cardiac neuroses, organic heart disease, and paroxysmal tachycardia.

The presence of simple goiter in a nervous young girl may lead to the diagnosis of Graves' disease when the pulse and B.M.R. are found to be high. Since in these cases the thyroid swelling is a temporary event, incident to physiologic conditions accompanying the approach to adult life, and the B.M.R. should be normal or below, a hastily advised thyroidectomy may lead to lifelong hypothyroidism. Taking the pulse rate while the patient is asleep, if possible, may quickly disillusion the observer. The B.M.R. after a third or fourth reading, on consecutive days or weeks, will reveal the correct status.

Moreover, a nontoxic thyroid enlargement which happens to be substernally or intrathoracically located, giving rise to symptoms of thoracic tumor, may so embarrass circulatory, respiratory, and other functions as to simulate thyrotoxicosis with rapid heart, dyspnea, nervousness, weakness, loss in weight, sweating, and occasionally asthmatic attacks. Yet the B.M.R. in these cases of "mechanical goiter heart" may be normal.

Within our series of over 5000 cases of Graves' disease observed since 1910, there were discovered within recent years 220 more or less atypical cases, presenting a B.M.R. within normal limits. Since it can be assumed that in these patients there was no thyroid participation in the syndrome, the term "thyroidless" Graves' disease was applied to this group. Seventy-four (74) of these were untreated cases; 8 were of rather protracted duration, with socalled "burned out" thyroid; 12 had been treated with iodine preparations prior to coming under my observation; 117 had undergone subtotal or total thyroidectomy; and 9 had received excessive roentgen-ray treatment. Here, too, frequent basal metabolic determinations are useful only for their comparative values in the same individual, to determine the course of the syndrome.

Occasionally an individual presenting the earmarks of *susceptibility* to Graves' disease, or even tangible evidences of the incipient form of the disease, will present a B.M.R. that is normal or below. Indeed, it has been my experience that, for a period of time, *hypothyroidism may precede the onset of Graves' disease.* Hence the combination of socalled hypothyroidism and Graves' disease may exist in one who is but a candidate for the syndrome. In such cases the B.M.R. yields little or no information, the clinical deductions depending upon the experience of the medical attendant.

That the taking of a B.M.R. for granted as final in diagnosis may result in an ill-advised thyroidectomy, is exemplified by the following case:

Mrs. T., age 36, the mother of 3 children, complained of nervousness, palpitation, insomnia, and a "lump in the throat," dating back to 3 months before, almost immediately after a quarrel with a relative. The family physician made a diagnosis of exophthalmic goiter. A basal metabolism test, done in a hospital, revealed a reading of plus 45 percent. She was permitted to return home and rest in bed for a few weeks in preparation for thyroidectomy.

The husband desiring another opinion, the physician called in a conservative internist with considerable experience in this work. The history given the consultant by the family physician was typical of Graves' disease — tachycardia, goiter, exophthalmos, tremor, a high B.M.R., and other significant clinical features. Examination by the consultant revealed no goiter, but a healthy layer of adipose tissue overlying the thyroid; the eyes were normal; the heart was rather flarable, but presented none of the pounding characteristics of Graves' disease; there was no tremor; the patient was well nourished, and her general demeanor in conversation was that of a normal woman. A B.M.R., done that week, under proper psychologic conditions, was minus 12 percent.

This woman was really suffering with a case of nervousness and globus hystericus, occasioned by the quarrel with her relative, and recovered perfectly after psychotherapy and a sedative, administered for a period of a few weeks.

Summary and Conclusions

1.—The basal metabolic determination should be made repeatedly, not as the determining factor in diagnosis, but rather as a supplement to the diagnostic acumen of the experienced clinician.

2.—The B.M.R. is constantly useful for comparison of the clinical status in the same individual from time to time, to determine the progress of the patient while under treatment.

3.—The basal metabolic test must at all times be made under the best possible mechanical and psychologic conditions.

4.—There are many normal and abnormal conditions other than exophthalmic goiter that raise the B.M.R. On the other hand, an otherwise typical case of Graves' disease may on occasion present a B.M.R. that is within normal limits.

5.—In many cases of Graves' disease, especially during remission following thyroidectomy or iodine administration, a normal B.M.R. is not necessarily an indication of normality of the patient as a whole nor of a safeguarded future.

1633 Spruce St.

Carcinoma of the Prostate*

By J. R. Nicholson, M.D., San Antonio, Tex.

CARCINOMA of the prostate is reported occurring in from 13 to 25 percent of specimens removed at operations. The percentage varies with different pathologists, the majority of whom report from 18 to 21 percent.

Moore, of Cornell Medical School, found, in examining routinely prostates from autopsies in a series of 375 cases of men past 50 years of age, that 63, or 16.8 percent were malignant, though none had been recognized clinically. In a large series of autopsies of men of all ages, the youngest man having a malignant prostate was 44 years old, and the oldest was 97. In the ninth decade the percentage of malignant disease was 29 percent. The older the man, the greater is his chance of having a cancer of the prostate.

Rich, of Johns Hopkins, in a series of 292 consecutive autopsies on men of 50 years or more dying from various causes, found 41, or 14 percent of the prostates malignant. It is mentioned here that a more thorough search of the prostate gland would have given a higher percentage of malignancy; 65.8 percent of these 41 cases were not diagnosed antemortem, the lesion having been too small and the symptoms too slight to attract attention on examination. The tumors were found most often near the outer margins of the gland, and even when a few millimeters in size, showed a tendency to invade the capsule.

Moore found that 73.5 percent arose in the posterior lobe; 8.8 percent in lateral lobes; and 14.8 percent in anterior lobe; and some in the middle lobe.

Colston, in a thorough study of prostates, found that all the growths originated in the posterior lamella and then invaded the gland.

The great importance of determining the place of origin of the neoplasm is to help in deciding whether it is better to do a resection or enucleation of the prostate. In most of the enucleations the posterior lamella is not removed. The line of cleavage between the adenoma and the thinned-out layer of prostatic tissue is followed, rather than the line between the prostatic tissue and its capsule.

An early diagnosis is of the same impor-

*Read before the Southwest Texas Medical Society, July 2, 1936.

tance in carcinoma of the prostate as it is in malignant disease of other organs of the body.

In Rich's series of 41 cases of prostatic carcinoma, 27 cases, or 65.8 percent were not recognized clinically. Twelve out of 17 of the cases were recognized by the urological service; one out of 16 cases was recognized by the medical service; one out of 8 cases was recognized by the surgical service. In 5 out of 17 cases it was not recognized by the urological service, although they had a preferred list. Some of the tumors were so minute that they were not recognized grossly by the pathological department.

Symptoms

The first symptoms the patient complains of are usually referable to the metastases, rather than to the primary growths. Thus sciatica, sacral backache, or severe neuritis may be the patient's chief complaint, rather than difficult urination, unless there is an accompanying hypertrophy of the prostate. Young and Davis have shown that wasting and anemia rarely occur before urinary obstruction is present. The local pain is usually explained by the early involvement of the perineural lymphatics within the prostate.

The diagnosis is made by rectal examination. The classical sign of stony hardness comes late, compared with the small areas of induration and nodules which are of the greatest significance in making an early diagnosis. Fixation of the prostate is an important finding. The matting together of the prostate and seminal vesicles occurs in about two-thirds of the cases. Young found it in 42 out of 63 cases. Specimens from the prostate, obtained by the resectoscope or by aspiration through the perineum, are means of accurate diagnosis when the cancer deposits are contacted.

Mulholland, of the Mayo Clinic, believes that 87 percent of malignant prostates can be diagnosed by the means of the expressed secretions, the cells from these cases being two to three times as large as the leukocytes found in the fibrous prostate, and occurring in small plaques of distorted cells.

Carcinoma of the prostate is overlooked largely through not being aware of its frequency; on account of its lying in a thin sheet over the benign hypertrophy or beneath a thick capsule; or being too small to be palpated. Again, it may be so soft and cellular that it cannot be felt by the examining finger. Inflammatory induration, calculi, and tuberculous nodules of the prostate must be ruled out. X-Rays will rule out or confirm the presence of prostatic calculi and may show metastases in the pelvic bones, vertebrae, and lungs.

Tuberculosis of the prostate descends from the epididymis by the way of the vas and seminal vesicles. All genital tuberculosis is secondary to tuberculosis of the lungs or bones, with few exceptions; therefore the lesions in the lungs or bones, and the nodules and irregularities of the epididymis and vas, plus the history, will rule out a tuberculous prostate. The fibrous nodules are the most difficult to rule out.

Treatment

Where there is urinary obstruction, it must be relieved. Prostatic resection is more satisfactory to the patient than a suprapubic cystotomy, the only contraindication being the inability to pass the resectoscope, due to stenosis of the prostatic urethra. Suprapubic cystotomy in such cases is the last resort. Enucleation does not remove the malignant tissue in the posterior lamella, nor in the veins nor the lymphatic spread of the retroperitoneal lymph nodes.

Mintz and Smith's article in the *New England Medical Journal* states that 60 out of 100 show involvement of the retroperitoneal lymph nodes. Furthermore, the wearing of a suprapubic drainage tube produces an inevitable infection of the bladder, and adds to the discomfort of the deep x-ray treatment.

Young's radical operation has given great promise where the diagnosis is made early and immediately followed by the removal of prostate, seminal vesicles, bladder neck, and part of the trigone through the perineum. The benefit from Young's radical operation is more apparent than real because, as a rule, carcinoma of the prostate is of very slow growth. It is not uncommon for a patient, relieved of his obstruction, to live five years or more. No doubt many of Young's early diagnosed cases would have lived five years or longer without the radical operation.

For the relief of pain, presacral resection has not proved certain and reliable. Chordotomy, although a severe operation, gives complete relief from pain.

Radium and deep x-ray therapy are available. Radium is usually inserted in the substance of the gland through the perineum, as needles or radon seeds. The results are disappointing. The most promising treatment is deep x-ray therapy.

Kenneth M. Walker states that massive doses should be given before the establishment of suprapubic drainage, as the presence of the drainage tube adds to the discomfort of the reaction to x-ray treatment. The response to the treatment varies with the patient, but whether this variation is due to different degrees of radiosensitiveness of the cancer cells, or to some unknown factor in the patient, he is unable to tell.

Barrenger makes the statement that, while the great majority of prostatic carcinomas are slow-growing and radio-insensitive, from 10 to 20 percent are actively growing and radiosensitive.

508 Medical Arts Bldg.

PHYSICAL AND OFFICE THERAPY AND RADIOLOGY

Treatment of Osteo-Arthritis of the Knee and Hip Joints by Intermittent Traction

(A New Apparatus)

By H. Jordan, M.D., New York City

ORTHOPEDIC surgery and physical therapy offer a wide choice of methods for the treatment of chronic painful conditions of the lower extremity caused by osteo-arthritis of the knee or hip joint. All of these methods have their indications and merits. Apart from surgery, which requires hospitalization, most of the conservative methods are limited to the office or the clinic. As a rule treatment must be continued over a very long period of time. This places a great burden upon the patient for economic as well as psychologic reasons. An effective treatment by physical therapy puts such a strain on the patient and takes so much of his time that it may seriously interfere with his business or professional and social life.

It has been my aim, therefore, to free the patient, after two or three weeks of initial treatment, from daily visits to the office or clinic. I have tried to find a method which may be carried out by the patient at home. For this purpose I have used intermittent traction for more than twelve years, as a satisfactory method for the prolonged treatment of osteo-arthritis, especially of the knee joint.

The idea of treating diseased joints by means of traction, or distraction, dates back to the early days of medicine. The first reference to this method in modern times is found in 1854, when G. Ross published the satisfactory results he had obtained by traction in the treatment of acute and chronic inflammation of joints. Since then, numerous articles on the subject have appeared in the literature, derived from clinical experience as well as from anatomic and physiologic sources (Davis, Sayre, Post, Pancoast, Brodie, R. Volkmann, etc.).

The scientific basis for "distraction therapy" of joints, however, was established in 1914, by H. von Baeyer[1, 2], who studied the effect of traction on joints in animal experiments. He arrived at a number of important and convincing conclusions, among which the following must be mentioned in order to illustrate the value of this treatment as applied to various conditions, such as arthrosis of the knee joint.

Following traction of short duration (3 to 5 minutes to the hip joint in rabbits), a marked hyperemia was found in the gross specimen, as well as microscopically, in all the structures in the region of the joint, involving the synovial membrane, the intra-articular fat pads, the articular surfaces, the bones forming the joint down to a remarkable depth, and finally a hyperemia of the stretched muscles at the time of relaxation after removal of the traction.

Clinical application of this method fulfilled the expectations created by the experimental studies. In addition to the physiologic effect of the hyperemia, remarkable mechanical fac-

tors were found to be active, including relief of pressure from compressed articular surfaces, stretching of contracted ligaments and muscles, lowering of the intra-articular pressure with increase of synovial fluid, etc.

H. JORDAN M.D. NEW YORK

APPARATUS FOR UNDULATING "INTERMITTENT TRACTION" OF JOINTS OF THE LOWER EXTREMITY

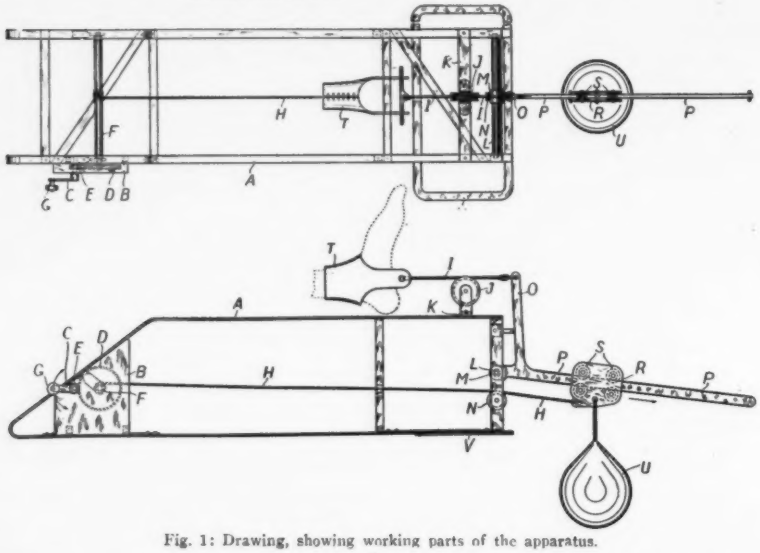

Fig. 1: Drawing, showing working parts of the apparatus.

Therefore, traction or distraction of diseased joints became incorporated in the armamentarium of mechanotherapy, where it has maintained its place for more than twenty years. The method was widely used in the treatment of joint injuries during the World War.

Continuous traction gives the results described only at the beginning of its application; after a while there is no beneficial effect from hyperemia and no increase of synovia. In order to obtain the desired effect on the joint and the surrounding structures, relaxation must alternate with traction, the former bringing hyperemia to the muscles. This observation has led to the introduction of *intermittent traction.*

Clinical experience with this type of mechanotherapy has indicated that its main field of application is in the treatment of arthrosis of the lower extremity, primarily the knee joint. Furthermore, I have found that a gradual and steady increase and decrease of the weight—a sort of undulating traction and relaxation—is of greater benefit in relieving pain than sudden changes of distraction and relaxation.

From what was said about freeing the patient from daily treatment at the office or clinic, it follows that I have been concerned with developing a method which would permit placing the intermittent traction in the patient's own hands. The following outfit is used:

Apparatus and Technic

1.—A frame (A, Fig. 1) for the lower extremity, as used in the treatment of fractures (Braun-Boehler fracture frame), with a pulley (J) attached to the distal end in the longitudinal axis of the lower leg. This frame is made to the patient's measurement, and is composed of light metal, partly covered with leather to avoid damage to the bed or couch on which it is placed.

2.—A padded, snugly-fitting anklet (T), with a metal spreader, or yoke, to apply the traction to the lower leg.

3.—A set of weights: one of ten pounds, to remain attached during the entire period of treatment; and from five to ten one-pound weights, which may be added or removed, giving a maximum traction of from fifteen to twenty pounds, depending on the patient's weight and the condition of the joint to be treated.

With the patient lying in bed or on a couch, the leg rests on a frame covered with canvas. Traction of ten pounds is applied by means of the anklet, and every five minutes a one-pound weight is added until the suitable maximum is reached. Next, the weights are removed one by one at five-minute intervals. In some cases it is advisable

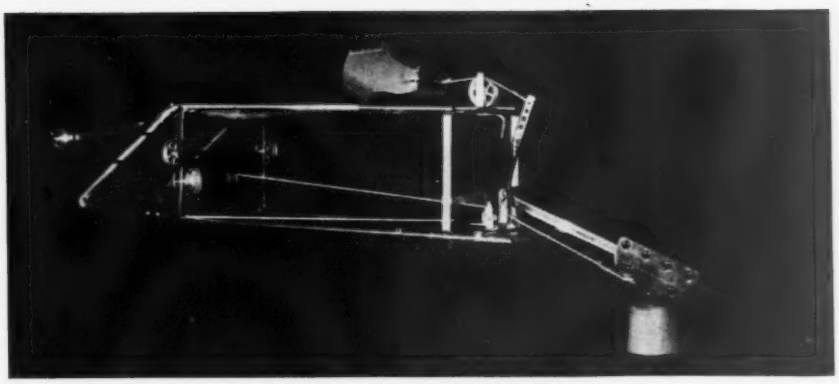

Fig. 2: Photograph of the actual apparatus.

to raise the lower end of the bed or couch eight inches in order to increase the effect of the traction by applying more counter-traction.

This arrangement has been used for more than twelve years, in many hundreds of cases, for the prolonged treatment of osteo-arthritis, especially of the knee joint, and has given most gratifying results. There remained, however, one disadvantage. The patient was not in a position to add or remove the single weights, which it is necessary to do at regular intervals in order to obtain the desirable "undulating" traction. He needed the assistance of a second person.

Von Baeyer tried to solve this problem fifteen years ago by means of a hydraulic engine much like a dredging machine—an effective but rather complicated apparatus, the use of which was necessarily restricted to the hospital. In a recent publication (1936)[3], he returned to a much simpler arrangement, sacrificing the rhythmical increase and decrease of the traction. Weight traction is applied in the usual manner with the patient lying in bed. It is effective as long as the patient lies towards the head of the bed, and is relieved when he slips down and rests his foot against the foot of the bed.

After a number of preliminary experiments, I believe that I have found a satisfactory mechanical solution of this problem, giving the desired undulating traction without the need of an assistant. (See Figs. 1 & 2.)

A sliding weight (R, Fig. 1) is used, as in a weighing machine. The weight (U) represents the initial traction of, say, ten pounds. As it slides down on the arm (P) of a lever in an inclined plane, following gravity, the traction is increased to a maximum of from fifteen to twenty pounds, and *vice versa*. The sliding weight is moved against gravity to its initial position by means of a string or cable (H) which is manipulated by the patient. In order to secure a steady increase and decrease of the traction a simple mechanical device is used, whereby the patient turns a crank (CG) winding up and slackening the cable by means of a tooth-gearing (ED).

A patient of average intelligence soon becomes familiar with this apparatus and readily learns the correct administration of intermittent traction. It is advisable to apply the treatment once a day for about an hour. Since a rest period in the middle of the day is very important for the successful management of chronic painful conditions of the lower extremity, it is desirable to apply the treatment by intermittent traction for about an hour at noon, if possible, once a day.

Summary

1.—Undulating intermittent traction is a valuable factor in the treatment of osteo-arthritis of the knee and hip joints. It improves the condition of the diseased joint by hyperemia; spastic muscles are relaxed; and pain is relieved. It is especially adapted for daily use in the patient's home, over a long period of time.

2.—A new apparatus has been devised which facilitates the application of undulating intermittent traction to the lower exremity by the patient, without assistance.

References

1.—Von Baeyer: Die Wirkung der Gelenkextension. *Munch. med. Wschnschr.* 1914, S. 577.

2.—Von Baeyer: Pendeln unt. gleichz. Extension. *Munch. med. Wschnschr.* 1916, S. 1674.

3.—Von Baeyer: Extensionsbehandlung bei Arthritis deformans. *Munch. med. Wschnschr.* 1936, S. 1972.

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NOTES AND ABSTRACTS

The Government Studies Cancer

IT is with deep satisfaction that we welcome the creation, by the 75th Congress, of the National Cancer Institute, with a grant of $10,000,000.

It will, appropriately, be constructed at Bethesda, Maryland, on land bequeathed for this purpose to the Government by the late Luke Wilson, himself a recent victim of cancer.

The Secretary of the Treasury, Henry Morgenthau, Jr., has named the following well-known savants as a board to cooperate with the director of the Institute:

Dr. Arthur H. Compton, Chicago, who won the Nobel prize for physics in 1927 and is one of the world's ranking authorities on x-rays.

Dr. James B. Conant, president of Harvard University, and formerly its professor of organic chemistry.

Dr. James Ewing, director of cancer research at Memorial Hospital in New York City, and professor of pathology at Cornell University, Ithaca, N.Y.

Dr. Francis Carter Wood, director of the Crocker Institute of Cancer Research, Columbia University.

Dr. Clarence Cook Little, Bar Harbor, Me., head of the Roscoe B. Jackson Memorial Laboratory, and managing director of the American Society for Control of Cancer.

Dr. Ludwig Hektoen, Chicago, head of the department of pathology at the University oi Chicago.

Dr. Thomas Parran, surgeon-general of the United States Public Health Service (ex-officio).

It has been hinted that Dr. Lewis Ryers Thompson, long a director of the National Institute of Health, will be appointed director of the National Cancer Institute.

Although Dr. Thompson modestly disclaims that he is a "real scientist" and prefers the title "administrator," we feel that his appointment would be a happy one, for he will come to the subject with a naive and plastic mind.

It is likely, therefore, that he will afford an honest trial of some methods of treatment now knocking at the doors of medicine, which have been denied investigation by prejudice and ignorance.

The cancer authorities have had the advantage of many years of work, principally by clinicians working with x-rays and radioactive energy. They have succeeded in postponing death in some cancerous patients. They are unable to detect a precancerous prodrome and to prevent initial cancer growths.

Some new ideas, new conceptions, new methods of approach—call them heterodox if you choose—must be given a dignified hearing.

If director Thompson is an administrator he will undoubtedly give them such a hearing. We expect, with well-founded hopes, actual results from the new governmental impetus to cancer research.

F. T. W.

Combined Roentgenotherapy and Ultra-Short Wave*

THE problem of increasing the radiosensitivity of malignant tumors has long been recognized as of primary importance in the treatment of cancer and has been approached from various aspects and angles.

Since the introduction of short wave and ultra-short wave apparatus, numerous attempts have been made to utilize this agency for treatment of neoplasms.

For our work a short-wave apparatus of 6-meter wave length and approximately 250 watt capacity was used, with circular, rubber-protected condensor electrodes 10 cm. in diameter, and a skin-electrode distance of from 7 to 12 cm., the "active" electrode having the shorter air space. In order to duplicate approximately the same dosage in each treatment: (1) the electrodes were adjusted to the same position at the same distance from the skin; (2) the same voltage setting was used as that previously employed; and (3) ar endeavor was made to obtain the same reading on the socalled high-frequency milliampere meter, which is a more or less arbitrary scale.

These ultra-short wave treatments were combined with the Coutard technic of roentgenotherapy. The short-wave treatments were given either shortly before or in between the two halves of a daily x-ray dose.

Combined treatment of Coutard technic of roentgenotherapy and ultra-short wave (6 meter length) has been applied to 30 cases

*Am. J. Surg., May, 1937.

of malignant disease, avoiding as much as possible the thermal effect of the short wave.

There was no indication that ultra-short waves aggravated or stimulated neoplastic tissue in any of the cases.

It is premature to draw any definite conclusions as to whether the vasodilatory action of these ultra-short waves increases the radiosensitivity of the tumor.

Lessening of skin injury by x-rays was observed in some of the patients, but more studies must be made in order to draw any definite conclusions.

Short-waves were found to be of distinct benefit in postoperative suppurations.

Analgesic effect was obtained in some cases when treated by ultra-short waves.

ISIDORE ARONS, M.D., D.M.R.E., (Camb.), and BORIS SOKOLOFF, M.D., Sc.D.
New York.

State Medicine is poorhouse medicine. Tell your patients.

Ultraviolet Rays in Neurasthenia

NEURASTHENIC patients derive considerable benefit from ultraviolet ray treatment; first, due to the general stimulating effect, and second, due to the fact that the patient feels that something is being done for him.—DAVID STEVENSON, M.B., Ch.B., in *Brit. J. Phys. Med.*, April, 1937.

Massage in Coccygodynia

IN cases of coccygodynia, spasm of the levator ani and coccygeus muscles is often found, and massage of these muscles brings relief or cure of the pain. If the pain in these cases runs into the gluteal region and down the back of the leg, the pyriformis muscle is also spastic, and the pain can be relieved by massaging it.—GEORGE HENRY THIELE, M.D., Kansas City, Mo., before the Section on Gastroenterology and Proctology of the A.M.A., at Atlantic City, N. J., June 9, 1937.

Simplification of Gallbladder Roentgenography

PICTURES of the gallbladder should be taken during inspiration, so that the overhanging ribs will be elevated. If the organ is not visualized, the patient's left side should be turned toward the table and the right side of the body elevated (left oblique picture), so that the gallbladder will not overlie the spinal column or the hepatic flexure. This procedure has resulted in the demonstration of a number of gallbladders which were not visible in the usual prone position.—MAURICE FELDMAN, M.D., in *Radiology*, July, 1937.

BOOKS

Dyson: Ionization

THE PRACTICE OF IONIZATION. *By J Newton Dyson, M.R.C.S. (Eng.), L.R.C.P. (Lond.), with a Foreword by Elkin P. Cumberbatch, M.A., B.M. (Oxon.), D.R.M.E. (Camb.), F.R.C.P. Pages, 178; Illustrations, 9. London: Henry Kimpton, 1936. Price, 6s. ($1.50).*

Galvanization, or "ionization" as the author inclusively terms all therapeutic applications of the direct or constant current, is an old but effective agency, too often neglected because of more recent and, apparently, more efficacious electrotherapeutic developments.

Galvanization, nevertheless, has "a definite value in the treatment of many complaints, in which it produces successful results which cannot be obtained by other methods of electrical treatment."

Dr. Dyson discusses, in precise detail, the various disease conditions in which ionization has been found particularly indicated, and illustrates the details of treatment and the clinical results with concise case histories.

For those practitioners who desire a practical manual on the therapeutics of the direct current, devoid of all abstruse theory and physics, this booklet is to be highly recommended.

J.E.G.W.

NEWS

A Transparent Fish

WHOLE animals can now be rendered transparent by a modification of the Spalteholz process. The photograph above was made at the research laboratories of McKesson & Robbins, Inc. In order to take these photographs, a dark tunnel was used between the camera and the jar containing the specimen. Bright light behind the specimen was directed toward the camera, hence the shadows are accentuated. The actual specimens are extremely transparent, with every structural part of the animal sharply defined.

A LIVING FOR THE DOCTOR

(The Business of Medicine and the Art of Living)

●

ASSOCIATE EDITOR

RALPH L. GORRELL, B.S.M., M.D., D.N.B

Knowledge and Culture

By George B. Lake, M.D., Waukegan, Ill.

WHAT do we hope to gain by the constant effort we put forth—the unending struggle with the circumstances of our environment (including other people and our own physical bodies), which fills the waking hours of most of us and, not infrequently, encroaches upon the periods which should be devoted to recreation or sleep or both?

Do we seek wealth, fame, power, position, love, excitement, or some of the other things for which most persons seem to be scrambling very industriously?

Perhaps; but it is rare to find a man who will declare that one or more of these achievements is the ultimate aim and object of his life. And when he does make such a statement he is probably a liar or is self-deceived. This latter condition is more common than is generally believed, because the higher ideals require that we must stretch the mind and soul—must *grow*—and we dread the effort and try to convince ourselves that something less will satisfy us.

The thing we want is satisfaction—happiness—which will *endure*, to warm and illumine our days as long as we live. If we seek money, it is in order to gain physical comfort and relief from the fear of poverty; fame is pursued for the satisfaction of our sense of personal importance; power, that we may mold men and circumstances to our will and bring the world "nearer to our hearts' desire"; love, that we may experience the joys of mutual sympathy and cooperation. All these things we strive for in the belief that they will make us happy.

But, in the last analysis, happiness is not something which can be extracted from life by force, nor bought for money; neither can it be pursued directly. It is a by-product of certain ways of living—certain kinds of activity and points of view.

Physical health and an eagerness to serve others may be assumed as basic ingredients in this formula though, as a matter of fact, the absence of one or both of them does not, always and of necessity, bar a man from the attainment of a degree of that inner satisfaction which is the real crown of living.

While it is obviously impossible for anyone to build for another a ship of life which is sure to bring him to the harbor of his dreams, there seem to be two landmarks by which one can chart a course to that port with a reasonable degree of certainty. These are knowledge and culture.

Knowledge means more than simply a working familiarity with the tools, technics, and nomenclature of any profession or trade. In its broad sense it implies an understanding of the facts and phenomena of the universe, whether these be material, emotional, intellectual, or spiritual. Not that all of this vast field is open to us at this time; but there is scarcely a man who could not acquire more knowledge than he now possesses, and profit enormously thereby, remembering that growth has no end and no finite cause, but is an attribute of our divine nature.

All knowledge has value, and if certain forms of it seem unprofitable and tiresome to us, that is simply an index of our own short-sightedness and inability to perceive its relationships to other items of information which we already possess and to the business of daily living. The greater the mass of knowledge that seems vital and interesting to us, the broader is our range of vision. Some penetrating philosopher has remarked that education consists in increasing the number of points at which we touch life, and, upon consideration, there is much merit in that suggestion, for no one, how-

ever wise, can take account of any facts of which he has no knowledge.

Satisfaction — happiness — can, then, be found, in one direction at least, as a result of the acquisition of a widely diversified and well-digested fund of knowledge, especially when it is put to work in the service of life and thus develops, at last, into wisdom.

Culture, that faculty or attribute which is desired by all who have emerged from the developmental stage of barbarism, may be defined as an instinctive appreciation of the *best*, in all the fields of life. Like happiness, it cannot be achieved by seeking it directly, but is, perhaps, most readily found by acquiring and digesting knowledge along many lines and by doing one or a number of things extremely well. The master workman recognizes master work. It has been well said that a productive or creative avocation is the hall-mark of the cultured man.

Such a man, because of his power to understand and appreciate the best, seeks the worthy and beautiful things and has no time to waste in belittling or ridiculing the efforts of those whose wisdom and skill are still in process of development; and he who sneers at sincere work because it does not measure up to *his* standards lacks culture, whatever other attributes he may possess.

Because of his wide and varied store of knowledge, the cultured man has a broad and catholic understanding and sympathy and a quick and versatile interest in the affairs of men. The lack of these faculties stamps a man as a provincial, whether he lives in a cross-roads hamlet or in the mathematical center of Manhattan. He who can talk nothing but "shop" is a provincial—or heathen or pagan—no matter what letters he is entitled to write after his name or what positions of authority he may hold, and his actions, his emotions, and his thinking are cramped and hampered by his narrow outlook.

The provincial, realizing subconsciously his own limitations, must constantly be bolstering up his position by loud and categorical statements and untenable generalities. He must emphasize his superiority to the "common herd" by disagreeing with it on all matters, even the most trivial. He will not listen to an argument, no matter how logical, which runs counter to his preconceived ideas. In a word, he is wholly lacking in a true sense of humor.

The man who takes himself or his work or both so seriously that he cannot laugh at them, on occasion, like a bystander, may be a great specialist or a great scholar, but he is certainly not a cultured man.

If happiness results, as has been said, from an inner sense of enlargement and capacity, it is almost surely out of the reach of the man of limited knowledge and narrow horizons. Joys and pleasures, of a more or less ephemeral sort, he may have, but the solid and enduring happiness which makes life a glorious and satisfying adventure, rests firmly upon the two unshakable pillars of knowledge and culture.

NOTES AND ABSTRACTS

State Medicine and the Patient
(A Warning to Laymen)

YOUR family physician has given, and will always continue to give, infinitely more in the way of service and watchful devotion and sympathetic attention than you or I, or anybody else, is in position to repay him for. That is the reason why the practice of medicine has always been termed the most noble of all professions.

The very existence of your family physician is threatened. At this very moment, bills are being considered in Washington—bills which, if they become laws, will eventually do away with family physicians in the true sense of the term. Your medical protector thereafter will simply be a government employee who, by political appointment, will be *assigned* to take care of you and your family, whether you like him or not. All of the sacred personal relationship which now binds your family doctor to you would disappear if so-called socialized medicine is brought into play; and if the personal relationship between you and your family doctor should be severed, it would mean that one of the most important factors in fighting disease would be gone forever. No physician can cure you of any illness unless you help him. And one kind of help you can give him is to have faith in him and in his ability. If you have a doctor who does not know you and has no personal interest in you or your family, you cannot very well be expected to have faith in him. Without faith in your doctor when you are ill you are bound to lose hope, and if you lose hope you lose all.

There is something you must do about this. You have too much at stake to be indifferent. Write to your representatives in Washington—*today*—to tell them that you are absolutely

opposed to state medicine or to any insurance scheme which is a modification of the present medical system which may deprive you and your loved ones of the tender and intelligent care which only the family physician, in his independent capacity, free from all political control, can render.

ELMER H. BOBST

Nutley, N. J.

[It might be a good plan to have a copy of this made and post it on the wall in your waiting room, where your patients can see it.—ED.]

Independent Clinical Observation*

THE newspapers, the radio, the powerful lay and professional press, and our educational system follow the pattern of mass production, thus crowding out spontaneous thinking, willing, and feeling. Obviously, the subordination of our natural impulses and emotions to the power of might is immoral and hardly conducive to the highest development of the individual, his intelligence, or his happiness.

Few have sufficient time or strength to offer effective resistance against these forces. Nevertheless, the suppression of the human spirit, by the forces of might that surround us, cannot be endured without limit. Here and there the inner voice cries out in rebellion against the crushing of the soaring spirit.

One of the dogmas fostered by the "big business" of Organized Medicine, is that medical achievement and significant discoveries have come from the technically equipped laboratories of university and hospital centers and that in the future, as in the past, it is only from them that advances in the healing art may be expected.

It is my opinion that there is considerable superfluous, even useless research. Conversely, much useful information can still be derived from commonplace observations by physicians working in the privacy of their consulting rooms or in small hospitals with limited clinical material, if only the creative spirit of these men were not ground down under the wheels of officialdom.

C. S. DANZER, M.D., F.A.C.P.

Brooklyn, N. Y.

*N. Y. Physician, Aug., 1937.

BOOKS

Rogers: Spain

SPAIN: A TRAGIC JOURNEY. *By F. Theo. Rogers. New York: The Macaulay Co. 1937. Price, $2.50.*

Unbiased reports of conditions in Spain these days are hard to come by. The fog of emotionalism and propaganda is so heavy that the truth is difficult to ascertain. This volume appears to be the sort of cool, accurate, and valid story that many people have been looking for.

The author is an American, who fought as an enlisted man during the Spanish-American War, and when his enlistment expired in the Philippines, remained there as a teacher and later went into journalism. For a considerable time he has been editor of the *Philippines Free Press*, and for forty years has spent long vacations in Spain triennially, so that he knows that country and its people almost better than they themselves do. On his last visit, in 1936, he was caught in the midst of the Civil War. This is the simple, straightforward report of what he saw, heard, felt, and otherwise experienced there, told in the crisp, vivid, convincing style of the highest-class journalistic reporter.

Briefly, Mr. Rogers went to Spain, on this occasion, in full sympathy with the Madrid government. His experiences there, during nine crowded and dangerous months, converted him to an ardent advocate of the Nationalist cause (ridiculously and falsely called "Fascist," for purposes of propaganda), and he tells how and why this happened, with documentary and pictorial, as well as first-hand, eye-witness evidence.

He says "I have seen both sides. Certainly no Spaniard has seen as much of both Red and White Spain as I have during the months of civil war—and I know of no foreigner who has. No man could have been equipped to pass more impartially upon the merits of the struggle; no judge could have had before him so much eye-witness evidence. Yet after these months of trial and experience, I have come out unequivocally for the side of Gen. Franco . . . who is fighting for modern civilization against the bubonic plague of Sovietism."

The struggle so dramatically portrayed in this fascinating book is not localized in Spain, but is planned to be world-wide, so no thoughtful person can afford to miss this sharply-drawn picture of what is afoot.

CAPITALISM

Since the necessary object of the capitalist system is to reduce prices, so that more people can buy a commodity, it is the only tried system which can give practical application to the moral dictum, "the greatest good for the greatest number," without utilizing political disturbance as a means to that end.—GEORGE E. SOKOLSKY, in Atlantic Monthly.

THE SEMINAR

"A MONTHLY POSTGRADUATE COURSE"

(NOTE: Our readers are cordially invited to submit fully worked up problems to the Seminar and to take part in the discussion of any or all problems submitted.

Discussions should reach this office not later than the 5th of the month following the appearance of the problem.

Address all communications intended for this department to The Seminar, care CLINICAL MEDICINE AND SURGERY, Waukegan, Ill.)

Problem No. 9 (Neurologic)

Presented by E. M. Hammes, M.D., St. Paul, Minn.*

(See CLIN. MED. & SURG., 1937, p. 415)

RECAPITULATION: The patient, a woman of 35 years, had a practically negative personal and family history. In July, 1934, she began to have pain in the upper right abdominal quadrant at night. A year later she noticed slight stiffness in the knees and ankles (more on the right), numbness of the toes gradually extending upward, and unsteadiness of gait, especially when her eyes were closed.

Examination, on December 12, 1935, showed a spastic gait, more marked on the right; positive Romberg sign; knee and ankle jerks markedly increased, with clonus; bilateral Babinski's sign; no atrophy, but slight edema of the ankles; various areas of paresthesia; loss of abdominal reflexes, and position and deep muscle sense in both legs. Her hemoglobin was 78 percent; blood pressure, 122/74; urine, normal; blood and spinal fluid Wassermann tests, negative. Spinal puncture showed a pressure of 14 mm. of mercury, with some evidence of block; Nonne-Froin syndrome; colloidal gold test, negative. Roentgenograms of the spine showed no bony lesion.

Requirements: Suggest diagnosis and treatment, giving reasons.

Discussion by W. Herington, M.D., Green City, Mo.

I believe this case to be one of a tumor or other growth on or in the spinal cord or canal. It would be impossible to tell which unless an exploratory operation was done; but all the symptoms, which are progressively growing worse and extending from one side to the other, are suggestive of a spinal tumor.

The girdle band about the waist might fool us into thinking that the condition was of a hysterical nature, but the results of examination easily eliminate hysteria.

Again, these tumor patients can use the muscles better in a recumbent position than they can while trying to stand up. The Romberg sign will be positive on account of pressure on the lateral columns of the cord.

The prognosis is grave and medical treatment offers no hope, except to nurse and make the patient as comfortable as possible.

Discussion by J. A. Dungan, M.D., Greeley, Colo.

My diagnosis would be an extramedullary tumor of the combined roots of the lumbar and sacral nerves—the *cauda equina*—for the following reasons: Tumors in this region give the Romberg sign, the bilateral Babinski sign, the Nonne-Froin syndrome, compression block with excess protein in the spinal fluid below that point, as well as practically all of the other phenomena noted in this case.

Extradural tumors of the cauda equina are found in middle life and may be fatal in a few years. They are progressive, but slowly so. Hydrochloric acid will probably be lacking in the stomach secretions, and large doses (one to two drams of the dilute HCl) should be given regularly, with the usual precautions. This will, besides aiding digestion, stop the continual drain of toxic digestive products into the region affected. Fresh liver (or some good, reliable liver extract) should also be given. If the teeth or tonsils are affected, their removal should be considered. Any other possible avenue of focal infection should be promptly dealt with.

Discussion by G. M. Russell, M.D., Billings, Mont.

The spastic gait, increased knee and ankle jerks, and the bilateral Babinski sign would point to a primary lateral sclerosis; whereas the hyperesthetic band in the right upper abdomen, the hyperesthesia of the right thigh, and the impairment of, the touch, pain,

*Adapted from *Journ.-Lancet*, June, 1937.

and temperature sense of the left abdomen and thigh, position and deep muscle sense, and loss of vibratory sense would indicate a probable meningeal tumor in the region of the 8th to 10th dorsal vertebra. I incline to the latter diagnosis.

Treatment of this condition is obviously surgical.

Discussion by E. C. Junger, M.D., Soldier, Ia.

This patient has had enough surgery, with no adequate indications or results, to make her a first-class neurotic.

Has she been married? Borne any children? Received any active antisyphilitic treatment? The history is inadequate, but syphilis is to be considered. Not all such patients have initial lesions, and if these are not too obvious are often explained away by a kindly but unwise family physician. One negative Wassermann test is inconclusive.

The symptoms in this case suggest a lesion in the spinal cord, such as multiple sclerosis or tabes dorsalis.

The treatment, if any, should be by hot baths, massage, and iodides; but no more surgery.

Discussion by Howard P. Benjamin, M.D., Omaha, Neb.

This case appears to be one of multiple sclerosis, because spasticity, occurring in a person between the ages of 5 and 35 years, always suggests this condition.

Of course, we should not forget tabes dorsalis (one negative Wassermann test does not rule out syphilis); chronic cerebrospinal fever, basilar type; encephalitis lethargica, which may simulate any affection of the nervous system; and myalgia.

Treatment, in the early stages, should include much rest, avoidance of exposure and fatigue, and a nutritious diet; in the later stages we must prevent bedsores, cystitis, and constipation, and apply such psychic, mechanical and electric treatments as may be indicated, along with alteratives, belladonna, and perhaps fibrolysin.

Discussion by N. Odeon Bourque, M.D., Chicago, Ill.

The history of this case calls for a differential diagnosis between the following: (1) Spinal tumor; (2) insular sclerosis; and (3) polyneuritis.

The epigastric pain, made worse by lying down, may be due to pressure or change of position in the spinal column, with resulting pressure on the nerve trunk (radiculitis). The band encircling the right side at or about the 1st lumbar, accompanied by varying degrees of paresthesia, anesthesia, and hyperesthesia below this area, indicates that there is a spinal lesion in the region between the 8th and 10th dorsal vertebrae. The epigastric pain is very probably due to radiculitis resulting from pressure at the 9th, 10th, or 11th intervertebral foramen. The weakness in the legs, disturbed sensation, and increased reflexes also indicate a spinal lesion. Absence of sphincteric disturbance evinces that the lesion is above the lumbar area and is either extramedullary or else it has not progressed far enough. Spasticity and the absence of atrophy indicate either an irritative lesion of the spinal column (pressure) or an upper-neurone affair. The spinal fluid block and the xanthochromatic Froin syndrome is almost conclusive of the presence of a tumor, injury having been excluded. *Insular sclerosis* may give similar symptoms but the upper part of the body is not usually exempt. In fact, the speech and eyes usually show signs; there is also dizziness, etc. In this case there is a slight intention tremor of the right hand and the loss of abdominal reflex that would make one think of insular sclerosis, but the negative spinal Wassermann and gold tests, with positive xanthochrome and spinal block, would eliminate insular sclerosis.

Polyneuritis is differentiated by the lack of atrophy of the limbs, flaccid paralysis, loss of deep muscle sensation, and the negative spinal fluid; also by the absence of the usual history of infection or alcoholic excesses.

Tumors of the spine are divided into extra- and intra-medullary, of which 75 percent are of the former variety.

Extramedullary tumors are divided into *malignant* (which includes carcinoma and sarcoma) and *nonmalignant*.

Carcinoma of the spine is always secondary and is 4 to 1 more prevalent in women than in men. It is metasticized from carcinoma of the breast, uterus, thyroid, lung, kidney, etc. In this history, except for a urinalysis, the condition of these organs is not stated.

Sarcoma may be primary, but the present history indicates a growth of 3 years (if the patient is still alive), which is, of course, slow for a sarcoma, which would certainly have manifested itself by a swelling on the spine by now.

Among the nonmalignant tumors are *fibroma, chondroma, lipoma* and *myoma*. These are slow in their development and are the less frequent types of spinal tumors. They are developed from the inner lining of the dura mater, arachnoid, and the denticulatum ligament.

Intermedullary tumors are glioma, sarcoma, angio-sarcoma, gumma, and tuberculosis.

Roentgenograms of spine at best are difficult to read, but repeated pictures, taken at different angles, should show bony tumors and chondromas.

Unfortunately, 75 percent of the extra-

medullary tumors are malignant, but if the patient is alive at this date she has a chance that her tumor may be benign.

Cisternal puncture, with the injection of a few drops of lipiodol, followed by repeated roentgenograms, will, if there is a block, show the exact location of the tumor.

Thecal involvement often presents girdle pain. In this case there is right-side girdle pain.

Diagnosis: Extramedullary tumor, located between the 8th and 12th dorsal vertebrae.

Treatment: Laminectomy and excision of the tumor, if this is practicable.

Solution by Dr. Hammes

A diagnosis of nonmalignant intradural, extramedullary cord tumor, located on the right side at the level of the eighth dorsal segment, was made. On January 27, 1936, a laminectomy was performed by Dr. Carroll, and a tumor was found at the level of the eighth dorsal segment, intradurally and attached to the meninges. This was easily removed. It was the size of a large hazel nut.

The microscopic diagnosis was *meningioma.* The patient made an uneventful convalescence.

Examination on March 6, 1936, was entirely negative except for some hyperesthesia over both thighs and some subjective complaint of stiffness of the toes.

Diagnosing Trichinosis

PROBLEM No. 7, in the September issue of CLINICAL MEDICINE AND SURGERY, was read with considerable interest in the division of zoology, U.S. Public Health Service.

It would probably be of interest to your readers to know that this division is in a position to supply to physicians an antigen for skin tests in the diagnosis of trichinosis in suspected cases. Moreover, if suitable serums from such cases are sent to us, we shall be very glad to run a precipitin test. The antigen we are using at the present time is a modification of the Bachman antigen, which can be sent ready for use by the physician and which has a higher titer.

MAURICE C. HALL,
Chief, Division of Zoology, U.S.P.H.S.
Washington, D.C.

Problem No. 11 (Diagnostic)

Presented by Drs. R. H. Jaffé and Victor Levine, Chicago, Ill.*

UP to last July this patient, a colored woman, aged 22 years, had been perfectly well. Since then she had not menstruated and had not felt well. In September (four months ago) she noticed a distention of her abdomen and also noticed that she began to lose weight, losing 40 pounds altogether up until her present entrance. She had come to the hospital in October for eight days, but no definite diagnosis had been made. She then went home and felt fairly well until Christmas, when she again developed distention of her abdomen and also marked belching, both of which had become progressively worse. She had been in bed for three weeks, had lumbar pain for three weeks, swelling of the legs for two weeks, and cramps over the entire abdomen for the past week. She stated that she had a big appetite and that she had fainted once in the past week. Recently her stools had been quite loose.

On examination she was very much emaciated, and seemed acutely ill. She had a temperature of 97.6° F.; pulse of 120; and respiratory rate of 57. Her left cervical glands were small but palpable. Her chest expansion was limited, and she had marked retraction of both infraclavicular spaces. There was impaired resonance over both apices and the right base, with bronchovesicular breathing at both apices and bronchial breathing at the right base posteriorly. No râles were heard. The heart tones were weak, the rhythm regular, the pulse weak and thready. The abdomen was tense, rounded, very tender and tympanitic, except for flatness in the right flank.

On vaginal examination it was found that the urethral mucosa was everted and from it issued a purulent discharge. The cervix had a marked irregular ulceration on the right side. The uterus and adnexa could not be palpated.

Her sputum and cervical smears were negative for tubercle bacilli. The urine showed many pus cells and numerous bacteria.

Requirements: Suggest the diagnosis, *giving reasons;* also suggest treatment, if indicated.

*Adapted from *Bul. Chicago M.S.*, April 2, 1932.

FUNDAMENTAL IMPULSES

According to modern psychologists, the fundamental impulses are sex, self-preservation, and self-development. Any thwarting of these impulses will lead to a feeling of insecurity, inadequacy, or insignificance, and may lead to personality disorders, of which pathologic worry and melancholy are as common expressions as neurasthenia or irritability.—JOSEPHINE L. RATHBONE, in *"Residual Neuromuscular Hypertension."*

CLINICAL NOTES and ABSTRACTS

Male Sterility and the New Remedies*

NORMAL semen consists of: (1) spermatozoa from the testicles; (2) spermatic cells; (3) secretions from the seminal vesicles, prostate, Cowper's glands and urethra (Morgagni's crypts and Littre's glands). Any alteration in its composition may bring about pathologic changes causing sterility.

Complete absence of spermatozoa may be due to: (1) frequent seminal emissions, especially found in young married couples, more especially those desirous of having children; (2) disturbed secretory function of the testicle in acute fevers and during prolonged convalescence; (3) testicular disease (syphilis, tuberculosis, malignant disease), when bilateral; (4) bilateral obstruction in the vas deferens, usually due to gonorrhea, but also may be caused by tuberculosis and syphilis.

A marked *decrease in number of spermatozoa* is found at the beginning of puberty and in old age, and also in general debility following disease or excessive intercourse. A moderate oligospermia need not mean sterility; on the contrary, it is perfectly compatible with normal fertility, although the greater the number of spermatozoa, the greater the chance of fecundation. Normal semen usually contains 25 to 50 sperms to a microscopic field, when examined with a No. 2 ocular and No. 16 objective.

Dead spermatozoa are due to: (1) excessive intercourse; (2) alcoholism, morphinism, tuberculosis, or diabetes; (3) cancer, syphilis, or incipient atrophy of the testicles; (4) inflammation of the seminal vesicles or chronic prostatitis, as sperms require normal prostatic secretion to arouse their motility.

Aspermia, or absence of any semen at all, is due to obstruction in the urethra or to psychic impotence (rare). Such individuals have intercourse, but do not have an emission until later. Other causes are: (1) suppurative prostatitis, with closure of both prostatic ducts; (2) an insensitive condition of the glans penis, brought about by injury to the spine; (3) stricture of the urethra, as during coitus the mucosa of the urethra becomes swollen and, if the stricture be a tight one, its orifice will become entirely closed, thus preventing the escape of semen, which remains imprisoned between the verumontanum and the stricture; when the congestion of the verumontanum subsides and no longer blocks the bladder outlet, the semen escapes into the bladder, to be discharged later with the urine.

Treatment: Gonadotropic hormone (Antuitrin-S) will cause descent and enlargement of undescended testicles and, in some instances, restore spermatogenesis in testicles atrophied by mumps. *Vitamins:* Vitamin A deficiency produces testicular degeneration; lack of vitamin E causes degeneration of germinal cells. Sex interest is decreased if the intake of vitamin B is maintained too long. The patient should eat lettuce, spinach, watercress, and wheat-germ oil capsules. *Do not inject male hormone or testicular extract.*

J. B. D'ORONZIO, M.D.

New York City.

*Urol. & Cut. Rev., Apr., 1937.

Measles Prevention and Attenuation

CONVALESCENT serum is the most effective agent in controlling measles, but is often difficult to obtain. Adult blood injection gives better results than commercial placental extract, without the severe local reaction, pain, and occasional fever. From 6 to 20 cc. of adult serum are given, according to the time of exposure and whether attenuation or prevention is desired.

To prepare the serum, remove 20 to 30 cc. of whole blood from the donor and transfer it to a sterile centrifuge tube; cover with sterile gauze; and remove the serum at the end of eight hours. Transfer the serum to a sterile ampule and store in a refrigerator, ready for use. If it is to be kept over forty-eight hours, it should be fixed with a preservative. The nearer the time of eruption; i. e., the longer the time since exposure, the larger amount of serum to be given must be.

Whole blood has these disadvantages: (1) Larger quantities must be given; (2) it must be given rapidly; (3) larger needles must be used. *No complication occurred* in any case

of measles treated with the serum, whole blood, or placental extract.—MORRIS L. BRIDGEMAN, M.D., in *Northw. Med.*, Aug., 1937.

[Few physicians in general practice have the equipment or training to prepare blood serum so that it is *sure* to be sterile, and therefore the ready-prepared and certainly sterile placental extracts, which admittedly work just as well as the serum, are safer and more widely available, are preferable for general use, except in well-equipped institutions with trained laboratory workers.—ED.]

Low-Calorie Diet in Coronary Disease

OVEREATING and obesity predispose to general arteriosclerosis, which extends to the coronary arteries of the heart. A reduced diet lessens the strain on the heart, and lowers weight. Milk is the first food given, followed by cereal, toast, jello, soft-boiled eggs, and strained soups. Do not reduce the weight more than two pounds a week.

The meals should be small, easily digestible, and without rich or highly seasoned or fermentative foods. Overcome the pangs of hunger with clear broth, jellied consomme, or tomato juice.—A. J. BOWMAN, M.D., in *Med. Bull. of Vet. Admin.*, January, 1937.

Apology re "Intravenous Use of Triple-Distilled Water"

IN my article in CLINICAL MEDICINE AND SURGERY of October, 1936, the arrangement of the text, on page 486 and on page 487 down to "Technic," is such as to unavoidably convey to the reader the false impression that I recorded the purpose of and the results obtained in original tests carried out conjointly by Dr. William J. Schatz and myself.

What appears in this portion of my article embraces Dr. Schatz's statement of purpose of one of the sections of his experimental research, original with him, reported in an article published in the "Transactions of the American Therapeutic Society" of 1927, a table from the same section of that article, his statement of results obtained in that section, and nearly all of his summary of the outstanding findings made in that research. It embraces also a table from Dr. Schatz's article, original with him, published in the *Medical World* of January, 1923, and his statement of clinical observations, original with him, made in a study reported in an article published in *American Medicine* of April, 1924. Except for a few substitutions, omissions and insertions made by myself, all of this is in the words employed by Dr. Schatz in the articles concerned, in which he reports work in which I took not even the slightest part.

In my references I have listed by title a number of articles, but failed to similarly list the particular articles by Dr. Schatz in question, and throughout the portion of my article concerned I have used neither quotation marks nor any other means of calling attention to the source of the materials involved.

I fully appreciate that, although all of this has been unintentional, a great injustice has been done not only to Dr. Schatz, but also to Dr. George B. Lake, Editor of CLINICAL MEDICINE AND SURGERY, to the readers of CLINICAL MEDICINE AND SURGERY, and to the other Editors concerned. I therefore offer to each and all of these my humblest apology and my deepest regrets, and request and direct that Dr. George Lake make the facts in the case known in CLINICAL MEDICINE AND SURGERY and that he, as well as any of the others concerned, publish these facts in such a manner as seems fitting to them.

J. L. HANSON, D.O., M.D.

Philadelphia, Pa.

Histidine in Peptic Ulcer*

I AM of the opinion that the use of histidine will prove to be of benefit as an additional weapon against peptic ulcer. It would seem to be of most value in patients who do not respond to diet-alkali management and in those who of necessity must remain ambulatory. However, it may be found that, in some individuals, courses of treatment may have to be repeated at intervals to maintain a symptom-free condition. In conjunction with a suitable diet, adequate rest, and other therapy as circumstances warrant, histidine should increase the number of cures in cases of peptic ulcer.

In view of these facts, I believe that the use of histidine should be further studied, for it does seem to be an agent which lessens the incapacity of the patient. It is not a specific, hence should not be used in all cases. It is contraindicated in patients having recent hemorrhage and in those having obstruction. I am of the opinion that a considerable percentage of failures have been due to the overenthusiasm of the investigators in allowing too free a diet with an unregulated life. Patients were led to believe that they would be cured in a short period, with the result that caution and common sense were ignored. Recurrences naturally followed, for

*Hahnemannian Monthly, June, 1937.

any treatment of peptic ulcer which does not take into consideration the patient, rather than the ulcer, will most likely end in failure. Subjecting any one to any course of therapy, without investigating all etiologic or contributing factors, invites further attacks.

J. S. HERKNESS, M.D.

Mt. Union, Pa.

Look for FACTS AND COMMENTS among the advertising pages at the back.

Causalin in Arthritis*

AMIDODIMETHYLPYRAZOLON-quinoline-sulphonate ("Causalin") was used in the treatment of 62 cases of arthritis, of various types, with decidedly encouraging results.

Patients with the four types of fibrositis, sciatica, synovitis, myofascitis, and pleurodynia, were continued on causalin for an average period of 12 days and were symptom-free within that time; whereas the cases of indefinite "rheumatism," with the usual pains around the sacro-iliac joints and with indefinite pains in all parts of the body, changing in some cases from one joint to another, combined with nervous exhaustion, required two months and a half, on an average, to be symptom-free. Gonorrheal arthritis also responded magnificently. Rheumatoid arthritis and osteo-arthritis, as naturally can be expected, were very troublesome in the advanced stages, and although the symptoms were cleared up and some mobility developed, in a few of the cases there was no improvement.

In one case of hypertrophic osteo-arthropathy, secondary to pulmonary infection with **molnilia fungus,** this drug, given in doses of 45 grains (3 Gm.) daily for 3 months, appeared to be specific for the lung lesion, as well as for that of the joints.

Of this group of 62 cases, 3 (5 percent) were not helped; seven (11 percent) were improved; the remaining 52 cases (84 percent) were materially benefited, using causalin and other treatment.

FRANCIS H. REDEWILL, M.D.

San Francisco, Calif.

The Seminal Vesicle As a Focus of Infection

PAINS in the testicles, perineal discomfort (sticking, pricking, or "weight"), painful ejaculation or pain after coitus, rheumatoid pains, radiating pains toward the kidneys and ureters, lumbar pains, pains in the urethra and penis, repeated attacks of orchitis and epididymitis, arthritis, bone pains, nervous and sexual disturbances, may appear as symptoms of chronic vesiculitis, and be relieved by washing out the urethra and bladder with a 1:8,000 potassium permanganate solution daily. Once or twice weekly, the vesicles and the prostate should be massaged, followed by the application of 15-percent silver nitrate solution through a urethroscope, to inflamed areas, polyps, etc. Lavage of the vesicles is carried out, if the inflammation is not relieved, by the Belfield technic of introducing a needle into the vas deferens through the scrotal skin and injecting 10 cc. of 5-percent Collargol solution, or other silver antiseptic.—BELMIRO VALVERDE, M.D., in *Urol. & Cut. Rev.*, June, 1937.

*Med. World, Sept., 1937.

What Other Physicians Are Doing

GONOCOCCAL **conjunctivitis** was successfully treated with oral doses of Prontylin, by the resident on Dr. Nesbitt's otolaryngological service at Wisconsin General Hospital.

A 20-percent urea solution is being used to stimulate **indolent ulcers and sinuses** by Dr. Elmer Sevringhaus, of the metabolic clinic of the University of Wisconsin.

Five injections of Prontosil, at three-hour intervals, resulted in complete disappearance of an extensive edema (mild cellulitis?) which appeared after a severe otitis and mastoiditis; the mastoidectomy was then carried out (Dr. T. J. H. Gorrell, of Chicago Heights, Illinois) and convalescence was uneventful.

The neurologic and orthopedic services of the Wisconsin General Hospital presented 5 cases of hereditary scoliosis and eye muscle failure of development. In every case the deformity of the back was in the same direction, and in every case, the only directions in which the eyes could be moved was up and down. The patients were all members of one family, and ranged in age from 24 to 5. Perfectly normal children had been born between each of these congenitally malformed children. Who says that heredity isn't important?

Physostigmine injections were of value in the treatment of cases of **myasthenia gravis,** that were not helped by ephedrine, on Dr. Bleckwin's service at the University of Wisconsin.

In regard to the new research in **testicular hormones,** many physicians do not understand that testosterone is the true testicular extract and androsterone is the urinary extract, states Dr. Sevringhaus. Both are fat-soluble.

Dr. Carl Moore, of the University of Chicago, has demonstrated that testicular extract will cause regression in the size of animals'

prostate glands that have been caused to enlarge by injections of estrogenic substances, such as theelin. How far the analogy can be carried to the problem of human prostatism, is not clear, thus far.

R. L. GORRELL, M.D.

Clarion, Ia.

Dangers in the Use of Protamine-Insulin

THE most serious drawback in the treatment of some individuals with protamine-insulin lies in the prolonged and not always predictable action.

Morning headache often indicates a low blood sugar during the preceding night. *Drowsiness* or mental dullness may be symptoms of a blood sugar reading of 60 mg. or less. The consequences of maintaining the blood sugar for many hours or days below the normal physiologic level (80 to 120 mg. per 100 cc.) are not known. Experimentally, *cerebral hemorrhages* have resulted from prolonged hypoglycemia.

Insulin reactions may come on gradually and be very difficult to treat, as food absorption is impaired and even intravenous injections of dextrose may not be completely effective.—M. R. WHITEHILL, M.D., and GEORGE HARROP, M.D., in *South. M. J.*, May, 1937.

What the General Practitioner Should Know About Stutterers

STUTTERING causes untold economic waste. It usually begins under the age of ten, and in the majority of cases before the age of five years. These are the years when the first major social adjustments begin. The early incidence of this syndrome, and its continuation without a break through childhood, adolescence, and adulthood, despite many spontaneous recoveries and improvements, are of utmost significance. It is in marked contrast to almost all the other clinical forms of psychoneurosis, which have a later onset. In stuttering, there results an arrest of emotional development. Males are from four to eight times as frequently affected as females. Speech begins earlier in the female, and is more facile throughout life.

The stutter-type of person is a chronic hesitator, coming from neuropathic stock and demonstrating neuropathic tendencies. In our work at the National Hospital for Speech Disorders, we have treated people who stutter playing musical instruments and become stuck playing a note on the piano, as a stutterer becomes stuck on a word. Although intellectually and physically on a par with the rest of mankind, emotionally they are victimized by an instability which makes a rationally ordered life impossible. Fear and other primitive emotional states set off a tendency to many hesitating acts: *a neurotic mechanism converts the psychic conflict into a physical symptom*, and as a result, the patient is in an almost constant state of either fear, anxiety or anticipation. Treatment must involve an approach to the individual *as an individual*.—I. P. CLAUBER, M.D., in *E.E.N. & T. Monthly*, Aug., 1937.

Preventive Medicine in Private Practice*

WHEN I hear anyone speak of complete health examinations as of something apart from the physician's usual work, I am baffled. *Are not all first examinations, or examinations after a long interval, done by the general practitioner, complete or almost complete?* And if not, why not? I do not mean luxury or impressive examinations, but those which are essential in order to understand the patient's condition thoroughly. This should include a detailed history, which will acquaint the physician with the patient's past and present life and environment, always keeping in sight the mental state and the occupation. This in turn will enable the physician to teach his patient to correct some of his errors in living.

Insignificant irregularities should not be exaggerated to the patient, but should be advised upon by the doctor (if he does not, an irresponsible, ignorant person will do so): nursing, feeding, weaning, teething, development of intelligence, school attendance, weight, physical and mental growth, early sexual irregularities, difficulties between children and parents or other adults, behavior disorders, puberty problems, play, sociability or lack of it, instruction in sexual life, menstrual beginnings, and counsel about sports and games.

Premarital examinations should be carried out, with instructions to report if sterility, lack or excess of sexual gratification, or incompatibility become troublesome factors. Abnormal weight, errors in eating and drinking, sleeping, exercise, breathing, posture, and elimination should be *corrected before disease develops*. The intelligent "health doctor" will fit his counsel to the individual.

Of the important results, none will be more so than the elimination of the trend to impress the patient, either by overprescribing, overtreating, or excess surgery. No medical

*Med. Rec., August 18, 1937.

man will need uselessly to inject something to cure anemia in a patient who sees the sunshine only between his shop and the subway, and the sunless home in which he lives. Nor will anyone feel obliged to feed fancy stomach medicine to the wealthy overeater. This will be unnecessary because of the improved relationship between the physician and patient and because of a public more educated as to the doctor's duties. *The doctor will at last be frank in all cases, because he will dare to.*

Let us master a new wisdom, the philosophy of health; a new viewpoint, the ethics of health.

B. LIBER, M.D.

New York City.

The Enlarged Heart

THE enlarged heart is always pathologic, and is the commonest finding in patients with heart disease. The myth of pregnancy hypertrophy has been disproved. The apparent broadening is due to pressure from below. It is extremely doubtful whether the normal heart will ever respond with detectable enlargement to hard physical work over a period of many years.

Hypertrophy, even in extreme degree, does not give rise to symptoms. It is only after the cardiac reserve has been overtaxed and dilatation has supervened that the symptoms of myocardial insufficiency (difficult breathing, fatigue on moderate exercise, dizziness, palpitation) appear.—G. R. HERRMANN, M.D., in "Diseases of Heart and Arteries" (C. V. Mosby Co., St. Louis).

Appendicitis

FROM the enormous death rate in this country from appendicitis, in spite of the voluminous literature and the public's hearty cooperation in the surgical treatment of the disease, perhaps it is time that the profession should advocate the routine removal of appendixes, along with tonsils and foreskins. Certainly if every child had his appendix removed, thousands of lives would be saved annually. The question of a physiologic function of the appendix is still not proved, but our recent trying times seem to have shown, perhaps, one useful function: that is, to keep surgeons alive during depressions.—HARRY KERR, M.D., in *South. M. J.*, June, 1937.

Recent Advances in Ophthalmology of Interest to the General Practitioner

1.—*Squint:* The primary cause of squint is the hereditary factor; the precipitating cause may be whooping cough, acute illness, or convulsions. *Blindness follows poor treatment, or if treatment is not begun before the seventh year.* Treatment involves one or all of these: Glasses, muscular exercises, fusion exercises, surgery.

2.—*Glaucoma:* Blindness can usually be prevented by appropriate surgical means (sclerocorneal trephining).

3.—*Cataract:* A search is made for the cause of the cataract. Suitable local medication will improve the general nutrition of the ocular tissues. Patients may be carried through life without operation, or if operation is necessary, it is no longer necessary to wait until the cataract is "ripe" and the patient almost blind. Surgery can be carried out as soon as the patient finds it increasingly difficult to do his work satisfactorily.—LUTHER C. PETER, M.D., in *Med. Rec.*, May 19, 1937.

Cystoscopy Is Not Painful

NOT long ago, I was invited to look after the urologic work of a hospital in one of the small communities that fringe New York. I was soon aware of the apprehension and fear that attended all cystoscopic procedures in that locality. The phobia included doctors and nurses, and extended out into the community.

A series of 56 cases was carried through without the use of an anesthetic, local or general. None of these patients was sent to bed to "recover." Five (5) cases had colicky pain for an hour or two, which was ascribed to the pyelographic media. There were 31 males and 25 females in the series, and the age range was between six and seventy-six years.

This is not a rare example of cystoscopic work. Any urologist with good training should do as well. The point is that, in the smaller towns, a surgeon or general practitioner takes on urology as a side-line, because there are not enough urologic patients to keep a specialist busy. *Result:* Patients suffer pain that they need not suffer, and do not get first-class diagnostic skill. *Solution:* A urologist should be attached to the hospital in a small town, and serve as urologic consultant for a number of surrounding communities.—J. BAYARD CLARK, M.D., in *N.Y.S.J.M.*, Aug. 1, 1937.

THUMBNAIL THERAPEUTICS

Treatment of the Chronically Fatigued Patient

BENZEDRINE Sulfate, in doses of 2.5 to 20 mg. before breakfast and lunch (start with small dose, then gradually increase until the desired stimulation is obtained), will prevent fatigue, melancholy, and timidity, and relieve vague neuromuscular pains. It must *not* be substituted for thinking over the patient's problems and investigating carefully for other causes of fatigue (tuberculosis, anemia, etc.).—E. V. ALLEN, M.D., in *Minn. Med.*, May, 1937.

Undulant Fever

STRIKING results have been obtained by treating undulant (Malta) fever with neoarsphenamine intravenously, beginning with 0.3 Gm., followed by 0.6 Gm. (in adults) in five days; then 0.6 or 0.9 Gm. weekly until 4.5 Gm. have been given.—CHARLES WAINWRIGHT, M.D., in *South. M. J.*, June, 1937.

Treatment of Anuria with Sucrose

SUCROSE (*not* glucose) is a very efficient diuretic, as it is not absorbed into the body, like glucose (dextrose) but is rapidly excreted through the kidneys. Sucrose (cane sugar) is given intravenously in 50-percent solution, in 50 to 100 cc. doses, twice daily, and followed by 500 to 1000 cc. of 5-percent dextrose solution in distilled water. The cause of anuria (such as impacted ureteral stone) should, of course, be removed if possible.—J. G. STROHM, M.D., in *W. J. of S. O. & G.*, June, 1937.

Relief of Pain in the Kidney Area

RENAL pain that is definitely due to ptosis is relieved at once and permanently by any well-done nephropexy. To make the diagnosis, pyelograms should be taken, first in the supine, then in the standing position. Ureteral kinking, obstruction and hydronephrosis are relieved and kidney destruction prevented by high anchoring of an abnormally loose kidney.—BRANSFORD LEWIS, M.D., in *Southwestern Med.*, April, 1937.

Use of Adhesive Tape

NEVER *encircle an extremity* with adhesive tape, especially for ankle sprains. If adhesive is wrapped entirely around a leg or arm, it should be split on one side, just as a plaster cast is split, to allow for increase in swelling.—H. H. WESTCOTT, M.D., in *A. J. Surg.*, Apr., 1937.

Removing Picric Acid Stains

A 1-percent solution of picric acid is a good wet dressing for sunburn and other burns, but it stains everything it touches, including the skin. When it has done its work, dust the stained skin with powdered potassium sulphate and wash off with soap, and the stain will be removed.—WALTER H. EDDY, M.D., in *Good Housekeeping*, June, 1937.

Pointers in Urinary Diseases

DUODENAL lavage is the best measure in fulminating uremia.

Calcium lactate is a better remedy in acidosis than sodium bicarbonate.

Never forget gradual decompression of the bladder before operation on an obstructing prostate.

In early prostatic cases, transurethral prostatectomy with a punch is a valuable measure.—JOSEPH F. MCCARTHY, M.D., N. Y. P. G. Med. School, New York City.

Lymphedema of the Extremities

PAINLESS, progressive edema of one or both legs, occurring in young individuals and without any ascertainable cause, is classed as "lymphedema precox."

Medical treatment: Elevate the leg until the maximum amount of swelling has disappeared; then apply a firm supporting bandage or stocking. *Surgical treatment,* to be used after chronic edema and fibrosis have long been present, consists in excision of a strip of skin, subcutaneous tissue, and fascia the length of the extremity (Kondoleon's operation).—E. V. ALLEN, M.D., in *U.S. Naval Med. Bull.*, April, 1937.

THE DOCTOR'S STUDY

NEW BOOKS

Any book reviewed in these columns will be procured for our readers if the order, addressed to CLINICAL MEDICINE AND SURGERY, Waukegan, Ill., is accompanied by a check for the published price of the book.

It is chiefly through books that we enjoy intercourse with superior minds; and these invaluable means of communication are in the reach of all.—CHANNING.

Whitby and Britton: Disorders of the Blood

DISORDERS OF THE BLOOD. Diagnosis, Pathology, Treatment, and Technic. *By Lionel E. H. Whitby, C.V.O., M.C., M.A., M.D. (Cantab.), F.R.C.P. (Lond.), D.P.H.; Assistant Pathologist, The Bland-Sutton Institute of Pathology, The Middlesex Hospital; and Pathologist, the Children's Hospital, Hampstead; and C. J. C. Britton, M.D. (New Zealand), D.P.H.; Assistant Pathologist, The Bland-Sutton Institute of Pathology, The Middlesex Hospital; Late Assistant Pathologist, Christchurch Hospital, New Zealand. Second Edition. With 12 Plates (8 colored) and 60 Text Figures. Philadelphia: P. Blakiston's Son & Co. 1937. Price, $7.50.*

This beautifully bound and printed volume offers a complete survey of the primary and secondary diseases of the blood. As the authors state, "The title emphasizes how rare is primary disease of the hemopoietic system and how often changes in the peripheral blood are a symptom of a disease or disorder in some other system of the body." The classification is clinical, however, as a classification based on etiology is not possible at this time.

One of the principal changes from the first edition is that stress has been laid upon the value of classifying anemias in terms of cell size and hemoglobin concentration, a classification which is more reliable and practical than that based on the color index. The grouping into macrocytic and microcytic, as well as hyperchromic and hypochromic, has been well established in this country.

Chapter 1 details the origin, functions and fates of the various cells of the blood; Chapter 2, the abnormal cell formation and abnormal cells to be found in the circulation; in succession are then discussed, the principles and practice of hematologic diagnosis, causes of anemia, nature and mode of action of hemopoietic substances, followed by chapters on various blood disorders.

The material has been brought up to date. Many clinical points may be found, such as that small doses of thyroid extract may cause a much better reaction to liver therapy in pernicious anemia; that some patients require from two to five times as much liver as do others; and that a control blood count should be performed once a month till the count is normal, and has remained steady for a period of three months.

This should prove a valuable book for any practicing clinician, and also for medical students and laboratory workers.

Ford: Nervous System Diseases

DISEASES OF THE NERVOUS SYSTEM IN INFANCY, CHILDHOOD AND ADOLESCENCE. *By Frank R. Ford, M.D., Assoc. Professor of Neurology, Johns Hopkins University. Springfield, Illinois: Charles C Thomas. 1937. Price, $8.50.*

This is an amazing compendium of medical knowledge on nervous system diseases as they affect those below adulthood. Hundreds of illustrative case histories are given, and many photographs depict the salient objective signs of disease. The bibliography is conveniently grouped immediately below each small section; the references are numbered in the hundreds and include every recent advance in diagnosis and treatment.

The volume is laid out in thirteen chapters: Examination; clinical aspects of the anatomy and physiology of the nervous system; prenatal diseases of the nervous system; heredofamilial and degenerative diseases of the nervous system; infections and parasitic in-

vasions; toxic and metabolic disorders; vascular lesions and circulatory disorders; neoplasms and injuries, the epilepsies and paroxysmal disorders; autonomic system diseases; muscle diseases and syndromes.

A few minor errors and omissions are noted. No mention is made of spinal fluid drainage in the treatment of idiopathic epilepsy, nor of ventriculography in its diagnosis. In the face of such a magnificent work, it seems a bit carping to find a few small errors. His view that narcolepsy is not due to a structural brain injury, but rather to bad habit formation, is especially interesting, as an unpublished review of over forty cases indicates that such may well be the case.

Adair: Maternal Care

MATERNAL CARE: THE PRINCIPLES OF ANTEPARTUM, INTRAPARTUM, AND POSTPARTUM CARE FOR THE PRACTITIONER OF OBSTETRICS. *F. L. Adair, M.D., Editor; W. C. Danforth, M.D.; G. W. Kosmak, M.D.; R. L. DeNormandie, M.D.; Approved by American Committee on Maternal Welfare, Inc. Chicago: University of Chicago Press. 1937. Price, $1.00 (Paper-bound $0.25).*

The American Committee on Maternal Welfare is very eager to help those engaged in the care of mothers and their infants to lessen the morbidity and mortality among their patients, and to raise maternal and infant care to the highest possible level. This pocket-size book presents eighty pages of approved technic for care of the pregnant and puerperal patient and the newborn baby, and the carrying out of various technics for delivery. Medical students, interns and those just beginning practice will find this book valuable; older men can find many points of value in it, as it is the summarized experience of obstetric leaders throughout the country. A few minor points might be criticized, such as the statements that episiotomies are very rarely necessary and that barbiturate analgesia cannot be carried out in the home, but the work as a whole is clear, concise, and interesting.

Barborka: Treatment by Diet

TREATMENT BY DIET. *By Clifford J. Barborka, B.S., M.S., M.D., D.Sc., F.A.C.P.; Department of Medicine, Northwestern University Medical School, Chicago; Formerly Consulting Physician, The Mayo Clinic. Illustrated. Third Edition. Philadelphia: J. B. Lippincott Co. 1937. Price, $5.00.*

This book is very much worth while. It may be recommended to any physician who appreciates the importance of diet in the treatment of disease and in the maintenance of health. Those who have not had time to keep up on the latest developments in vitamin therapy and the use of specific diets in the treatment of such common diseases as diabetes, obesity, blood diseases, nephritis, peptic ulcer, constipation, and the deficiency diseases can do no better than read these compact lines and prescribe the ready-to-use diets.

The first section of the book discusses the common foods, their servings, and their content of carbohydrate, fat, and protein; also the vitamins and the symptoms resulting from their lack. Then the use of diet therapy is taken up in regard to those diseases in which the diet is paramount. The third section is devoted to a discussion of those diseases in which diet therapy is of varying importance.

Each disease is considered in definite order: A brief statement of the essential nature of the disease and the object of the diet; a consideration of the problems involved; and finally diets, all arranged so that the appropriate diet can be copied and given at once, without computation. Household measures are indicated, so that there is no trouble for the housewife in preparing the foods called for.

Lewis: Clinical Electrocardiography

CLINICAL ELECTROCARDIOGRAPHY. *By Sir Thomas Lewis, M.D., F.R.S., D.Sc., LL.D., F.R.C.P., C.B.E., Physician in Charge Department of Clinical Research, University College Hospital; Honorary Consulting Physician to the Ministry of Pensions; Consulting Physician, City of London Hospital; Lately Physician of the Staff of the Medical Research Council; Fellow of University College. London: Shaw and Sons. $3.75.*

Dr. Lewis is an example of that rare combination, clinician and research worker, so that one is always sure of interesting, practical, and highly accurate information when reading his works.

This does not pretend to be a complete reference work; rather it is intended to give the practitioner a quick, reliable guide and introduction to electrocardiography. Although the great majority of heart cases can be diagnosed and properly handled without resort to electrocardiography, we must not forget that it is a means of directly examining the all-essential heart innervation and muscles, and that some of the arrhythmias can be correctly classified only by its use. This book can be recommended as a clear statement of what an electrocardiogram will reveal, and how.

Jagic & Flaum: Cardiotherapy

THERAPIE DER HERZKRANKHEITEN. (Therapy of Heart Diseases). *By Prof. Dr. N. v. Jagic and Dr. Ernst Flaum, Head and Assistant, II Medical University Clinic, respectively. Second revised edition. Pp. 342 with 16 illustrations. Berlin: Urban and Schwarzenberg. 1937. Price, paper cover Rm. 10.50; bound Rm. 12.00.*

The present edition has retained all the good features of the earlier ones, but con-

tains in addition many changes, in conformity with newer research and clinical experience. A section on thyroidectomy in heart disease has been added, in which especially the American literature has been subjected to a critical review. The authors are in accord with the statement that, by this operation, one often attains a cure after all other therapeutic methods have failed. The book is, as the title implies, devoted solely to therapy, but pathology is treated as the basis for rational treatment. An excellent book for study and reference.

G. M. B.

Rongy: Safely through Childbirth

SAFELY THROUGH CHILDBIRTH. A Guide Book for the Expectant Mother. *By A. J. Rongy, M.D., F.A.C.S., Fellow of the New York Academy of Medicine; Member, American Association of Obstetricians, Gynecologists and Abdominal Surgeons; American Association for the Advancement of Science; American Medical Editors' and Authors' Association; American Medical Association; and New York State and County Medical Societies. At Present Attending Obstetrician and Gynecologist, Lebanon Hospital, and Consulting Gynecologist, Rockaway Beach and Royal Hospitals. Author, "Childbirth: Yesterday and Today." 20 Illustrations. New York: Emerson Books, Inc. 1937. Price, $2.50.*

This book is almost a complete picture of a woman's physical life in all its most important phases, from puberty to fecundity's end. It tells an expectant mother just what to anticipate before and after childbirth, and of the processes of labor, and answers the many questions a woman asks of her physician. The whole subject of childbirth is dealt with simply and effectively.

A good guidebook for the obstetrician to place in the hands of the patient. It will help her to cooperate intelligently with him.

M. G. D.

Gantt: Russian Medicine

RUSSIAN MEDICINE. *By W. Horsley Gannt, M.D., Johns Hopkins University School of Medicine; formerly Chief of Medical Division, American Relief Administration, Leningrad Unit; Collaborator in Pavlov's Laboratories. New York: Paul B. Hoeber Co. (Medical Book Dept. of Harper & Brothers). 1937. Price, $2.50.*

This is one of the small volumes of "Clio Medica," a series of primers of the history of medicine. A number of previous works have covered the history of medicine in China, Japan, Germany, France, Persia, etc. Dr. Gannt traces the development of medical science in Russia from the few disorganized physicians of the 18th century to the present-day wide-spread health service. It is appalling to read of the millions who suffered and died for lack of medical care. This, too, in "modern" times, when we were sending medical missionaries to carefree cannibals. Brief sketches are given of the life and works of Pirogoff, the famous Russian surgeon, Botkin who "glorified in accurate diagnoses, confirmed by autopsy," Sechenov, the father of Russian physiology, and others. Those physicians who favor State Medicine are urged to read the last two chapters.

Scott: Pocket Medical Cyclopedia

GOULD AND PYLE'S POCKET CYCLOPEDIA OF MEDICINE AND SURGERY. Based upon the Fourth Edition of Gould and Pyle's Cyclopedia of Practical Medicine and Surgery. *Third Edition. Revised, Enlarged and Edited by R. J. E. Scott, M.A., B.C.L., M.D., New York. Fellow of the New York Academy of Medicine; Formerly Attending Physician to the Demilt Dispensary; Formerly Attending Physician to the Bellevue Dispensary; Editor of "Witthaus' Text-Book of Chemistry," etc. Philadelphia: P. Blakiston's Son & Co., Inc. 1926. Price, $2.50.*

This useful and well-made little volume is based upon the familiar Gould and Pyle "Cyclopedia of Medicine." It is not intended to take the place of a dictionary, but to supplement it with brief encyclopedic discussions of subjects of the widest general interest and matters which no one expects to carry in his head. Since the former edition, in 1926, revisions and additions have been made which increased the size of the volume by about 200 pages. The Dose Table, however, still follows the U.S.P.X, instead of the latest (XI) revision. Tabular presentation and cross references are freely used and increase the book's value.

Every physician, nurse, medical student, and all who are concerned with Medicine need a book of this kind every day, and this volume is of such a size that it may easily be carried in a pocket or kept handy on the desk.

Bogert: Simplified Dietetics

DIETETICS SIMPLIFIED. *By L. Jean Bogert Ph.D., Consultant in Nutrition, Delineator Institute, New York City; Formerly Instructor in Medicine, University of Chicago; Instructor in Experimental Medicine, Yale University; Research Chemist, Obstetrical Department, Henry Ford Hospital; Professor of Food Economics and Nutrition at The Kansas State Agricultural College; with Laboratory Section by Mame T. Porter, M.A., Head of Home Economics and Nutrition, Department of Public Welfare, Utica, N.Y.; Formerly Dietitian, Hospital of the University of Pennsylvania; Chief Dietitian, U. S. Public Health Service, Base Hospital 27, Louisiana: Dietitian, Private Pavilion, Mt. Sinai Hospital, New York; Chief Dietitian, Toronto General Hospital, Toronto, Canada. New York: The Macmillan Co. 1937. Price, $3.00.*

This is a dietetics textbook that may be used in teaching, research or in medical practice. It contains many practical points on the working out of diets under home con-

ditions. "The menu of the diabetic should be planned around that of the family, to save time in preparation and cooking . . . Having special foods served to him frequently causes embarrassment for the patient and is generally expensive." Explicit directions are then given, so that the housewife can easily prepare food for everyone at once.

Suggestions are given for easily coverting the average diet into a weight-gaining diet (for malnutrition or hyperthyroidism); for adding extra Vitamin B (in treatment of anorexia, poor digestion, underweight, some forms of nervousness) and other vitamins and minerals; and for preparing low-cost foods that will furnish all essentials. Every type of food and diet is considered, often in some detail, as well as a brief resume of the diseases due to dietary imbalance.

The whole book has up-to-date dietary information. The first chapters may well be read by the average physician, for a sensible discussion of the needs of the *normal* individual as far as concerns food requirements, protein intake, mineral need, etc.

New Books Received

The following books have been received in this office and will be reviewed in our pages as rapidly as possible.

THE ABDOMINAL SURGERY OF CHILDREN. *By Sir Lancelot Barrington-Ward, K.C.V.O., Ch.M., F.R.C.S. (Edin.), F.R.C.S. (Eng.). 2nd Edition. New York: Oxford University Press. 1937. Price, $9.00.*

MATERIA MEDICA PHARMACOLOGY THERAPEUTICS AND PRESCRIPTION WRITING. For Students and Practitioners. *By Walter Arthur Bastedo, Ph.M., M.D., Sc.D., F.A.C.P. 4th Edition, Reset. Philadelphia and London: W. B. Saunders Company. 1937. Price, $6.50.*

THE MANAGEMENT OF THE PNEUMONIAS. For Physicians and Medical Students. *By Jesse G. M. Bullowa, B.A., M.D. New York: Oxford University Press. 1937. Price, $8.50.*

A TEXTBOOK OF MEDICINE. *By American Authors. Edited by Russell L. Cecil, A.B., M.D., Sc.D. Associate Editor for Diseases of the Nervous System, Foster Kennedy, M.D., F.R.S.E. 4th Edition, Revised and Entirely Reset. Philadelphia and London: W. B. Saunders Company. 1937. Price, $9.00.*

DR. COLWELL'S DAILY LOG FOR PHYSICIANS. For 1938. A Brief, Simple, Accurate Financial Record for the Physician's Desk. *Champaign, Illinois: The Colwell Publishing Co. Price, $6.00.*

THE ENDOCRINES IN THEORY AND PRACTICE. Articles Republished from the *British Medical Journal. Philadelphia: P. Blakiston's Son & Co., Inc. 1937. Price, $3.50.*

THE POSTMORTEM EXAMINATION. *By Sidney Farber, M.D. Springfield, Illinois: Charles C Thomas. 1937. Price, $3.50.*

DRUG ADDICTION. *By E. W. Adams, O.B.E., M.D. New York: Oxford University Press. 1937. Price, $3.00.*

EXTERNAL DISEASES OF THE EYE. *By Donald T. Atkinson, M.D., F.A.C.S. 2nd Edition, Thoroughly Revised. Philadelphia: Lea & Febiger. 1937. Price, $8.00.*

THE SCIENTIFIC BASIS OF PHYSICAL EDUCATION. *By F. W. W. Griffin, M.A., M.D., B.Ch. Foreword by Sir E. Kaye Le Fleming, M.A., M.D., B.Ch. New York: Oxford University Press. 1937. Price, $2.75.*

NEUROLOGY. *By Roy R. Grinker, M.D. 2nd Edition. Springfield, Illinois: Charles C Thomas. 1937. Price, $8.50.*

RADIATION THERAPY. Its Use in the Treatment of Benign and Malignant Conditions. *By Ira I. Kaplan, B.Sc., M.D. New York: Oxford University Press. 1937. Price, $10.00.*

OPERATIVE OBSTETRICS. A Guide to the Difficulties and Complications of Obstetric Practice. *By J. M. Munro Kerr, LL.D., M.D., F.C.O.G. 4th Edition with the Assistance of Donald McIntyre, M.D., F.C.O.G., etc., and D. Fyfe Anderson, M.D. Baltimore: William Wood and Company. 1937. Price, $12.00.*

PHYSICAL THERAPY IN ARTHRITIS. *By Frank Hammond Krusen, M.D. Foreword by Melvin S. Henderson, M.D. New York: Paul B. Hoeber, Inc. 1937. Price, $2.25.*

NEUERE ERGEBNISSE AUF DEM GEBIETE DER KREBSKRANKHEITEN. 47 Lectures. *With a Foreword by Geheimrat Prof. Dr. Borst and Edited by Prof. Dr. C. Adam and Prof. Dr. Auler. Leipzig: Verlag Von S. Hirzel. 1937. Price, paper cover, RM 12.—; cloth cover, RM 13.50.*

THE DIAGNOSIS OF NERVOUS DISEASES. *By Sir James Purves-Stewart, K.C.M.G., C.B., Knight of Justice, Order of St. John of Jerusalem, M.D. Edin., F.R.C.P. 8th Edition. Baltimore: William Wood and Company. 1937. Price, $10.00.*

BIOLOGICAL AND CLINICAL CHEMISTRY. *By Matthew Steel, Ph.D. Philadelphia: Lea & Febiger. 1937. Price, $8.00.*

THE THINKING BODY. A Study of the Balancing Forces of Dynamic Man. *By Mabel Elsworth Todd. Foreword by E. G. Brackett, M.D. New York: Paul B. Hoeber, Inc. 1937. Price, $4.00.*

THE BUSINESS SIDE OF MEDICAL PRACTICE. *By Theodore Wiprud. Philadelphia and London: W. B. Saunders Company. 1937. Price, $2.50.*

MEDICAL NEWS

Courtesy of the *Outpost*.

Brazil's Newest Leprosarium

THE leprosy problem is a real one in Brazil (there are at least 27,000 cases, in a population of 48,000,000), and the authorities are dealing with it straightforwardly. At present, 10,000 cases are isolated in 16 leprosariums (the newest one, the Curupaiti, at Rio de Janeiro, with a capacity of 500 beds, is shown above), and eight more such institutions are under construction.

Opening in Illinois

THERE is an opening for a young and active gentile physician in a small rural town in Illinois, where there is little competition and a cooperative pharmacist. Further information may be obtained from Lyons Drug Store, Blandinsville, Ill.

Passing of Dr. Bergey

DAVID Hendricks Bergey, M.D., B.Sc., D.P.H., research biologist, former professor of bacteriology and hygiene at the University of Pennsylvania, and author of the well-known "Manual of Determinative Bacteriology," passed to his rest September 5, 1937, at the age of 76 years. Since 1932, Dr. Bergey had been director of research in biology with the National Drug Company, of Philadelphia, where his last accomplishment was the development of a toxoid for the prevention of tetanus.

Mississippi Valley Medical Society Award

THE Mississippi Valley Medical Society offers a cash prize of $100.00, a gold medal, and a certificate of award for the best unpublished essay on a subject of interest and practical value to the general practitioner of medicine. Entrants must be ethical licensed physicians, residents of the United States and graduates of approved medical schools. The winner will be invited to present his contribution before the next annual meeting of the Mississippi Valley Medical Society (September 28, 29, 30, 1938), the Society reserving the exclusive right to first publish the essay in its official publication—the *Radiologic Review and Mississippi Valley Medical Journal*. All contributions shall not exceed 5000 words, be typewritten in English in manuscript form, submitted in five copies, and must be received not later than May 15, 1938. Further details may be secured from Harold Swanberg, M.D., Secretary, Mississippi Valley Medical Society, 209-224 W. C. U. Building, Quincy, Ill.

Southern Medical Association

THE thirty-first annual meeting of the Southern Medical Association will be held at New Orleans, La., November 30 and December 1, 2, and 3, 1937.

This is one of the most important medical meetings of the year; physicians from the North are welcomed with true southern hospitality; New Orleans is one of the most interesting cities in the United States. These are three reasons why all who can arrange to attend this meeting should do so.

Full particulars may be obtained from the Secretary-Manager, Mr. C. P. Loranz, Empire Bldg., Birmingham, Ala.

Dr. Blech Honored

DR. Gustavus M. Blech, formerly editor of *The Seminar* in this Journal and well known to many of our readers, was recently honored by the Belgian Government by the conferring of the decoration of a commander of the ancient Royal Order of St. George, with the Knight grand cross and cordon. The only other person thus honored this year was the King of Italy.

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4 Taurocol. The Paul Plessner Co.

5 Specific Urethritis — Gonosan "Riedel." Riedel & Co., Inc.

6 Dr. Weirick's Sanitarium. Dr. G. A. Weirick.

8 *Journal of Intravenous Therapy.* Loeser Laboratory.

9 Elixir Bromaurate in the Treatment of Whooping Cough and other Cough Disorders. Report of Cases. (Booklet.) Gold Pharmacal Co.

10 Menocrin. The Harrower Lab., Inc.

12 Endothyrin for use in Hypothyroidism, etc. The Harrower Lab., Inc.

13 A Few Notes Regarding Psychoanalysis. Fellows Medical Mfg. Co.

15 Cough — Its Symptomatic Treatment. Martin H. Smith Co.

16 The Therapeutic Value of Chemical Foods. Fellows Medical Mfg. Co.

19 Menstrual Regulation by Symptomatic Treatment. Martin H. Smith Co.

20 Hyperol. A Utero-Ovarian Tonic and Corrective. Purdue Frederick Co.

21 Gray's Glycerine Tonic Comp. Purdue Frederick Co.

22 Feeding Sick Patients. Knox Gelatine Labs.

23 Danish Ointment. Reprint *J. A. M. A.* Acne Rosacea. The Original 24-Hour Treatment for Scabies. The Tilden Co.

25 Clinical Guide for Female Sex Hormone Therapy. Schering Corp.

26 Gastric Mucin; An Outstanding Advance in Ulcer Therapy. The Wilson Labs.

27 Reducing Diets and Recipes. Knox Gelatine Laboratories.

29 Colloidal Mercury Sulphide-Hille. Hille Laboratories.

30 Ludozan—The Longer Lasting Antacid. Schering Corporation.

33 Foot Weakness and Correction for the Physician. The Scholl Mfg. Co., Inc.

38 Protecting the Expectant Mother. Corn Products Sales Co.

43 Karo Syrup for Infant Feeding. Corn Products Sales Co.

44 Appliances for the Mechanical Retention of Hernia. Brooks Appliance Co.

50 Gestasol. The Follicular and Luteinizing Fractions obtained from Human Placentas. The National Drug Co.

51 Formaldehyde for Urinary Antisepsis. Schering & Glatz, Inc.

54 Use of Zinc Borate in Otolaryngology. Hille Laboratories.

55 Prontosil (in ampules for injection) and Prontylin (in tablets for oral use) — Chemotherapy of Streptococcus Infections and Gonorrhea. Winthrop Chemical Co., Inc.

61 Body Chemistry as Related to the Endocrine Glands. Reed & Carnrick.

62 Bismuth Subsalicylate in the Treatment of Syphilis. Loeser Lab.

63 Nephritin—The Standard Treatment for Kidney Disorders. Reed & Carnrick.

68 The Principles of Allergy with Special Reference to Asthma and Hay Fever. The Arlington Chemical Company.

69 Cebione. For Use in Scurvy and Prescorbutic Conditions. Merck & Co., Inc.

71 Eucupin Ointment, a Bactericidal Local Anesthetic of Sustained Action. Rare Chemicals, Inc.

72 Lupex Capsules for Relief of the Functional Pains of Menstruation and Primary Dysmenorrhea. The Lupex Co., Inc.

75 Plants which cause Hay Fever. The Arlington Chemical Co.

78 Argyrol in Urology and Gynecology. A. C. Barnes Company.

80 Mecholyl. A Parasympathetic Stimulant. Merck & Co., Inc.

83 Iocapral. An Arterial Antispasmodic. Winthrop Chemical Co., Inc.

84 The Three Arsenicals in General Practice. Mallinckrodt Chemical Works.

88 As Man Stood Up. Schering & Glatz, Inc.

89 Free Iodine as a Therapeutic Agent. Burnham Soluble Iodine Co.

91 Adrenal Cortex; for the Treatment of Addison's Disease and Asthenia. The Wilson Labs.

94 Haimased for Hypertension. The Tilden Co.

95 Low Cholesterol, Low Fat, Low Caloric Diet List for Distribution to Patients. Burnham Soluble Iodine Co.

96 Eburol, a Healing Ointment for Burns, Wounds and Ulcers. Ernst Bischoff Co.

97 Reprint, "Dysmenorrhea: A New and Effective Treatment." The Lupex Co.

99 A Survey in Two Fields of Medicine. A. C. Barnes Co.

100 Neo-Plasmoid. The Modern Solution For the Injection Treatment of Hernia. Farnsworth Labs.

101 4 P.M. And All Is Not Well. Wm. R. Warner & Co.

102 Malaria Chemotherapy with Atabrine. Winthrop Chemical Co.

103 Sarapin. A New Product. High Chemical Co.

105 Ovoferrin. Iron in its Most Efficient Subdivision. A. C. Barnes Co.

107 Merythrol. A New Mercurial Germicide. Chemico Labs.

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110 Parenteral Calcium Therapy—A Review of the Literature with Comprehensive Bibliography. Loeser Lab.

111 Argyrol in Ophthalmology. A. C. Barnes Company.

112 Oxygen-Ozone and Octozone. Octozone Equipment Co.

113 Abbott's Iberin. Abbott Laboratories.

114 Pituitary & Thymus. Endo Products, Inc.

115 Glasco Non-spill Eye Bath. Glasco Products Co.

116 Alparene—An Effective Sclerosing Solution for the Injection Treatment of Hernia. Dequin Physicians' Products Co.

117 Estrone and Estriol. Abbott Labs.

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119 Vinethene. An Inhalation Anesthetic for Short Anesthesia. Merck & Co.

120 Dyschezia. Wm. R. Warner & Co.

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